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## Primary Bronchiogenic Carcinoma\*\*

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The importance of primary bronchiogenic carcinoma has been appreciated only relatively recently. A condition which was considered a rarity a decade and a half ago has become one of the most frequent and important primary malignant lesions. The incidence of this neoplasm is increasing both relatively and absolutely. Before the first successful pneumonectomy for primary malignancy of the lung by Evarts Graham<sup>36</sup> in 1933, this lesion was considered as having a hopeless prognosis, but this case demonstrated the feasibility of the surgical removal of a lung for malignant disease; and in the past eleven years many cases have been operated upon successfully.

The incidence of primary pulmonary malignancy is increasing both relatively and absolutely. Unquestionably the growing interest in these lesions has resulted in more cases being correctly diagnosed, and in recognition of the fact that the increase is real and not only relative. Whereas Adler<sup>1</sup> in 1912 stated: "On one point, however, there is nearly complete consensus of opinion and that is that primary malignant neoplasms of the lung are among the rarest forms of disease," bronchiogenic carcinoma at present is second in incidence to carcinoma of the stomach, as evidenced by the reports of Brines and Kenning<sup>12</sup> and Koletsky<sup>50</sup>. In both of these reports conclusions are based on autopsy series and are, therefore, absolute and not relative. Johnson and Reinhart<sup>45</sup> found that the incidence of pulmonary carcinoma determined at autopsy increased from 0.54 per cent of autopsies performed from 1932 to 1937 to 0.92 per cent from 1937 to 1942. The incidence of primary bronchiogenic carcinoma in necropsies performed at the Charity Hospital in New Orleans increased five times in seven years. In 1931

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the incidence was 0.47 per cent and in the same period the incidence of carcinoma of the stomach was 2.3 per cent; in 1938 these respective incidences were 2 per cent and 1.9 per cent. Harnett<sup>39</sup> found that whereas the total number of cancer deaths in the British Empire had increased 22 per cent, cancer of the respiratory tract had increased 120 per cent, and the deaths from carcinoma of the lung in males from 1921 to 1930 was 21.1 per million as contrasted with 100.9 per million in 1937. Dorn<sup>25</sup> found that between 1914 and 1930 the death rate from cancer of the lung in the United States increased 3.7 times as contrasted with an increase of only 20 per cent for all forms of cancer combined. He also found that the death rate from cancer of the lung continued to increase from 1930 to 1940. In the last decade this increase was 22 per cent in white females and 78 per cent in white males, or approximately 2.5 and 8.5 per cent per year, respectively. Dorn<sup>25</sup> states: "Out of every 100,000 white males and females at any one time, about 410 females and 340 males are under treatment for cancer; 5 of the females and 16 of the males are being treated for cancer of the lung." He further estimates that between 450,000 and 500,000 people in the United States are under medical care for cancer, of which about 13,000 are being treated for primary cancer of the lung. Approximately 8,000 new cases of primary cancer of the lung are diagnosed and receive medical treatment for the first time each year. Wegelin<sup>108</sup> observed a progressive increase in the incidence of pulmonary carcinomas as determined by autopsy. In a series of 117 cases studied in the Bern Pathological Institute it was found that the number of pulmonary carcinomas in each 1,000 autopsies was as follows:

1900 - 1904 .....	2.5
1905 - 1909 .....	1.8
1910 - 1914 .....	1.6
1915 - 1919 .....	7.5
1920 - 1924 .....	4.8
1925 - 1929 .....	7.8
1930 - 1934 .....	11.2
1935 - 1939 .....	14.2

On 212,416 admissions to the Charity Hospital from the first of January 1940, to the first of January 1944, bronchiogenic carcinoma was diagnosed 155 times, 7.3 per 10,000 admissions. In 140 of these the diagnosis was confirmed by histologic examination (6.59 cases per 10,000); whereas in an additional 15, diagnosis was made on clinical findings alone (0.71 cases per 10,000), (Figs. 1 and 2). In addition to these cases we have seen 98 cases of primary bronchiogenic carcinoma elsewhere. Steiner<sup>98</sup> in a series of col-

lected cases found that primary carcinoma was discovered in 0.99 per cent of 93,560 necropsies performed throughout the United States. It represented 9.47 per cent of all the carcinomas. He found that at the University of Chicago it was third in frequency of all carcinomas as determined by autopsy.

Bronchiogenic carcinoma occurs predominantly in males. In Adler's<sup>1</sup> series approximately 70 per cent of the tumors occurred in males. More recently the incidence of involvement in males has become even greater. As previously reported by us<sup>69</sup> in a collected series of 8,575 cases in which the sex was stated, there were 6,769 males (78.9 per cent) and 1,806 females (21 per cent). Approximately three out of four carcinomas of the lung affect the male. Wegelin<sup>108</sup> found in his series of pulmonary malignancy that 96 occurred in males and 21 in females, a relationship of 4.57 to 1. It has been suggested by Ferrari<sup>20</sup> that the increased incidence of pulmonary carcinoma in the male sex is due to the greater prevalence of smoking among this sex. That this might have been a factor previously does not seem to be a factor now since smoking is done approximately as frequently by women as by men. Undoubtedly, there is a definite sex predisposition to bronchiogenic carcinoma. In 166 cases of bronchiogenic carcinoma which we have observed, 145 (87.3 per cent) were men and 21 (12.7 per cent) were women (Fig. 3). In 52 cases in which we have done a pneumonectomy for bronchiogenic carcinoma, 43 (82.7 per cent) were in men and 9 (17.3 per cent) were in women (Fig. 4).

**Age:** Pulmonary carcinoma, as carcinoma elsewhere, is a disease of advancing age. Weller<sup>109</sup> found the greatest incidence in the sixth and seventh decades. In Olson's<sup>70</sup> series, 73.8 per cent

Incidence of Carcinoma of the Lung  
CHARITY HOSPITAL, NEW ORLEANS—  
From Jan. 1, 1940 to Jan. 1, 1944

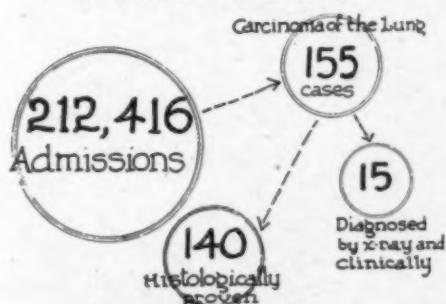


Figure 1

Incidence per 10,000 admissions  
Charity Hospital, New Orleans  
Cases of Carcinoma of the Lung—

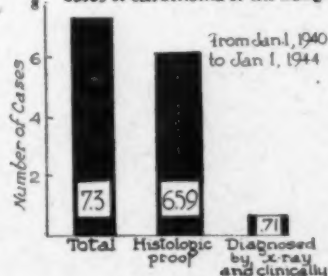


Figure 2

Fig. 1: Graphic representation of incidence of carcinoma of the lung at the Charity Hospital, New Orleans, from January 1, 1940 to January 1, 1941.  
Fig. 2: Graphic representation of incidence per 10,000 admissions of cases of carcinoma of the lung at the Charity Hospital, New Orleans, from January 1, 1940 to January 1, 1944.



occurred in the fifth, sixth, and seventh decades. Fisher<sup>31</sup> in a series of 1,888 collected cases, found that one-third of the tumors occurred in the fifth decade, one third after the age of sixty, and only 13 per cent under the age of forty. Simons<sup>94</sup> in a collected series of over 5,000 cases, found that four-fifths of the tumors occurred between the ages of forty and seventy. The youngest case was reported by McAldowie,<sup>57</sup> who described a cancer of the lung in a child five and a half months old. The lesion was not proved by biopsy but was demonstrated at autopsy. Beardsley<sup>5</sup> records a case which was histologically proved in which the first metastatic nodule was noted at the age of 10 months. Wegelin<sup>108</sup> found that 68 per cent of his cases occurred in the sixth and seventh decades. In a series of 4,307 collected cases which were previously reported by us the following results were found: first decade, 0.16 per cent; second decade, 0.7 per cent; third decade, 2.9 per cent; fourth decade, 10.7 per cent; fifth decade, 25.4 per cent; sixth decade, 34.1 per cent; seventh decade, 20 per cent; eighth decade, 5.4 per cent; and ninth decade, 0.58 per cent. In 166 cases which we have studied, the following age incidences were found: second decade, 1.2 per cent; third decade, 0.6 per cent; fourth decade, 7.2 per cent; fifth decade, 24.09 per cent; sixth decade, 31.3 per cent; seventh decade, 30.1 per cent; eighth decade, 4.8 per cent; ninth decade, 0.6 per cent (Fig. 5). The average age was fifty-one years. The eldest patient was eighty-three and the youngest was nineteen. It might be imagined that the age of patients subjected to pneumonectomy

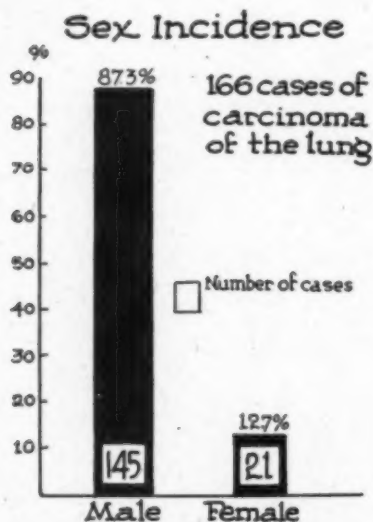


Figure 3

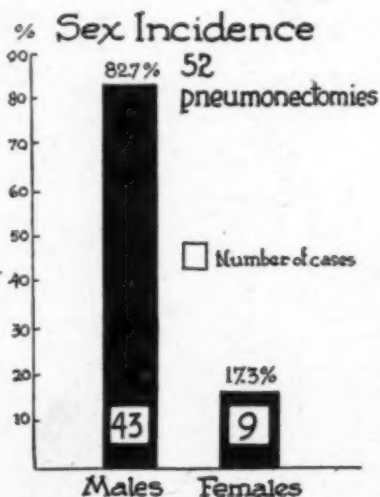


Figure 4

Fig. 3: Graphic representation of sex incidence in 166 cases of carcinoma of the lung.—Fig. 4: Graphic representation of sex incidence in 52 pneumonectomies performed by authors.



is somewhat lower than the other cases of bronchiogenic carcinoma. In our 52 cases of pneumonectomy performed for bronchiogenic carcinoma the ages were as follows: second decade, 3.8 per cent; third decade, 1.9 per cent; fourth decade, 9.6 per cent; fifth decade, 26.9 per cent; sixth decade, 38.5 per cent; seventh decade, 17.3 per cent; and eighth decade, 1.9 per cent (Figs. 6 and 7). The youngest patient was nineteen, the eldest patient was seventy-two.

**Etiology:** Whereas there are a number of factors which are responsible for the increased incidence of bronchiogenic carcinoma, it is our firm belief, as we have summarized in previous publications<sup>66,67,68,69</sup> that the increased incidence is due chiefly to the greater frequency of smoking. The repeated inhalations of smoke over long periods produce chronic irritation of the bronchial mucosa as evidenced by the characteristically associated cough. As early as 1923, Fahr<sup>28</sup> stated that in his opinion the increase in incidence of pulmonary carcinoma was due to the incidence of cigarette smoking. Lickint<sup>55</sup> also expressed the opinion that the

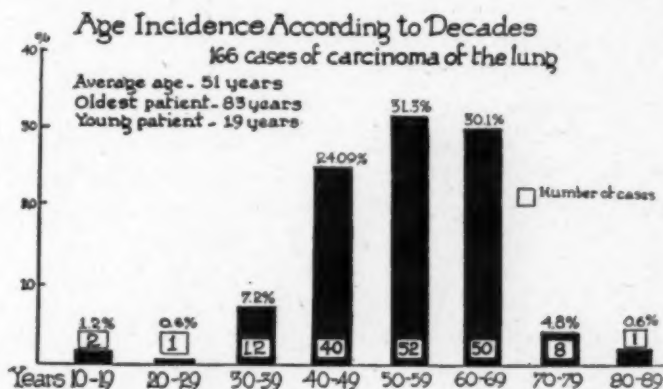


Fig. 5: Graphic representation of age incidence according to decades in 166 cases of carcinoma of the lung.

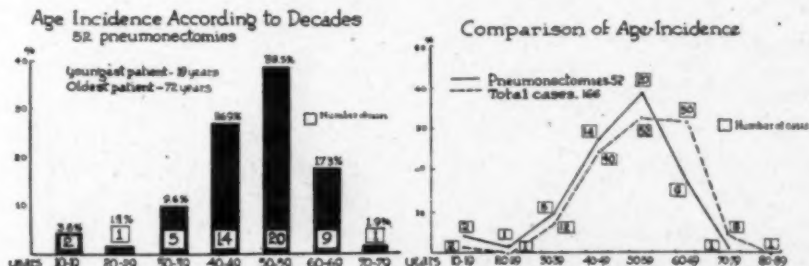


Figure 6

Figure 7

Fig. 6: Graphic representation of age incidence according to decades in 52 pneumonectomies performed by authors.—Fig. 7: Graphic representation of comparison of age incidence.

inhalation of tobacco smoke is a responsible factor in the increase of bronchiogenic carcinoma and that such carcinoma in many cases can be prevented by abstinence from smoking, particularly by patients whose families have been known to have a high cancer incidence. That smoking is of etiologic significance has been emphasized by Tylecote,<sup>101</sup> McNally,<sup>58</sup> Mertens,<sup>63</sup> Bogen and Loomis.<sup>8</sup> Experimentally, the carcinogenic effect of tobacco has been demonstrated repeatedly.<sup>7,54,55,56,65,76,85,86,105</sup> Roffo<sup>85</sup> stated the conviction, on the basis of his clinical observations of 78,000 patients treated in the University Institute for Experimental Medicine and for the Study of the Treatment of Cancer in Buenos Aires, that tobacco is the most important factor in determining the localization of cancer. He was able to produce carcinoma experimentally by applying tar derived from various tobaccos. Hoffman,<sup>41</sup> on the basis of his statistical analyses of the incidence of cancer, states: "Smoking habits unquestionably increase the liability to cancer of the mouth, the throat, the esophagus, the larynx, and the lung. The change in the cancer death rate during recent years has not, however, been at all disproportionate to the enormous increase in the cigarette smoking habit which has replaced the older method of smoking, unquestionably more injurious than smoking of cigars. The increase of cancer of the lung observed in this and many other countries is in all probability to a certain extent directly traceable to the common practice of cigarette smoking and the inhalation of cigarette smoke. The latter factors unquestionably increase the danger of cancer development." In an attempt to determine the etiologic relationship between cancer of the lung and inhalation of exhaust gases from automobiles, we demonstrated previously that there was no direct parallelism between the incidence of bronchiogenic carcinoma and automobile production. On the other hand, there was a definite parallelism between the incidence of bronchiogenic carcinoma and the sale of cigarettes. Recently Black<sup>6</sup> suggested that commercial lead may be a possible inciting factor in bronchiogenic carcinoma. He suggests that even the lead in tobacco may be a factor in the production of bronchiogenic carcinoma in smokers. Wallace and Jackson<sup>106</sup> believe that there is a parallelism between the increased incidence of pulmonary carcinoma and the increased incidence of smoking. They suggest that the small quantities of arsenic in tobacco may play an etiologic role. Among the other etiologic factors which have been suggested are the changes which occur in the bronchial epithelium as a result of previous inflammations. It was thought that following the influenza epidemic of 1918 the metaplasia of the epithelium which frequently resulted might be responsible for the increased incidence of carcinoma. Wegelin<sup>108</sup> in commenting

on this stated that in his autopsy material the evidence of metaplasia was much more common in the period from 1900 to 1918 than it was from 1919 to 1940, the incidences being 40 per cent and 25 per cent, respectively. This would suggest that the bronchial mucosa metaplasia following influenza is no factor. Our cases of pneumonectomy demonstrate that outdoor occupations play no role in the production of bronchiogenic carcinoma. Of the 52 cases, 30 (57.6 per cent) worked indoors, and 22 (42.3 per cent) worked outside (Fig. 8).

**Pathology:** Pulmonary carcinoma is almost entirely a disease of the bronchi, although rarely it may begin in the alveoli. For practical purposes, however, it may be considered a bronchiogenic lesion. The right side is somewhat more frequently involved than the left. In a series of 4,732 cases which we previously collected from the literature there were 2,761 (58.3 per cent) tumors involving the right lung and 1,971 (41.6 per cent) involving the left lung. In the 166 cases which we have studied, the right lung was involved in 88 (53.01 per cent), the left lung in 73 (43.9 per cent), and in 5 (3 per cent) both lungs were involved (Fig. 9). In the 52 cases in which a pneumonectomy was done, the right lung was involved in 32 (61.5 per cent) and the left lung in 20 (38.5 per cent). The involvement according to the lobe was as follows: right upper and lower lobes, each, 13 cases (25 per cent); right middle lobe, 2 cases (3.8 per cent); right upper and middle lobes, 2 cases (3.8 per cent); right middle and lower lobes, 2 cases (3.8 per cent);

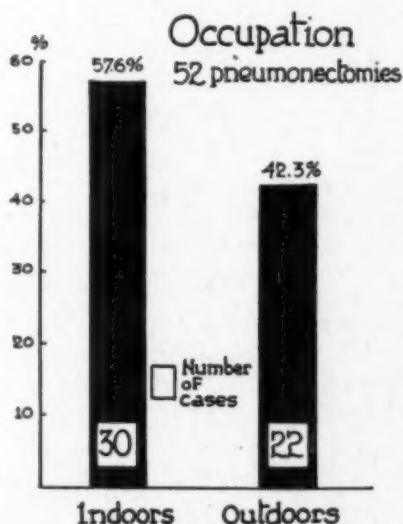


Figure 8

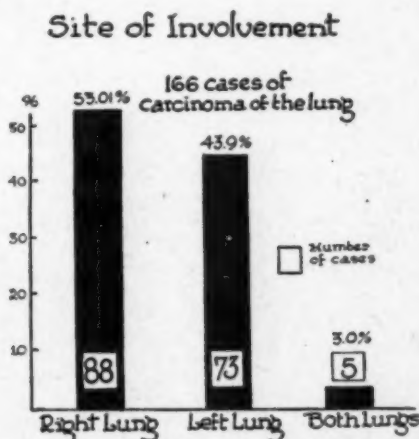


Figure 9

Fig. 8: Graphic representation of occupation in 52 pneumonectomies performed by authors.—Fig. 9: Graphic representation of site of involvement in 166 cases of carcinoma of the lung.



left upper lobe, 10 cases (19.2 per cent); left lower lobe, 7 cases (13.5 per cent); left upper and lower lobes, 3 cases (5.8 per cent) (Fig. 10). In Fisher's<sup>31</sup> series of 3,735 cases of pulmonary carcinoma the right side was involved in 53 per cent and the left in 45 per cent, and the lesion was bilateral in 2 per cent. In 784 of Fischer's<sup>31</sup> cases in which the location according to the bronchus was designated, the findings were as follows: of the right lung, the main bronchus in 142; the upper lobe in 148; the lower lobe in 129; the middle lobe in 15; of the left lung, the main bronchus in 115; the upper lobe in 130; and the lower lobe in 105. Most bronchiogenic carcinomas are located in the region of the hilus. According to Boyd,<sup>11</sup> 90 per cent of bronchiogenic carcinomas are in this region. Weller<sup>109</sup> and Koletsky<sup>60</sup> found that the lesions were hilar in 90 per cent and 86.6 per cent, respectively, of the cases they studied. In Frissell and Knox's<sup>33</sup> series, however, the incidence of hilar carcinomas was not as high, being only 49.7 per cent; 17.8 per cent involved the parenchyma and were of the nodular variety; 6.5 per cent were peripheral; 23.9 per cent were diffuse, and 2.1 per cent were bilateral miliary. Edwards<sup>27</sup> found that 80 per cent of carcinomas of the lung occur in the larger bronchi or near the origin of the secondary bronchi, and only 20 per cent occur in the peripheral bronchioles.

Bronchiogenic carcinomas are relatively slow growing and remain localized for a considerable period of time. This is of importance because so frequently the diagnosis of bronchiogenic carcinoma is not made until late. Wegelin<sup>108</sup> found in his autopsy series that 11 per cent had no evidence of extension beyond the primary focus even at autopsy. As previously emphasized by us,<sup>66,67,68,69</sup> the modes of metastatic extension in primary bronchiogenic carcinoma are as follows: (1) by direct extension, (2) bron-

#### Sites of Involvement in 52 Pneumonectomies

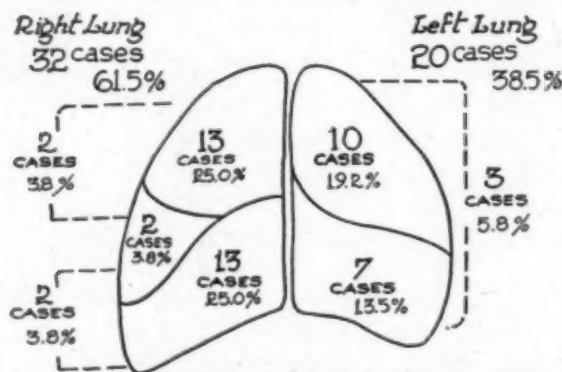


Fig. 10: Graphic representation of site of involvement in authors' 52 pneumonectomies.

chial intraluminal, (3) implantation by aspiration biopsy or by operation, (4) hematogenous, and (5) lymphogenous. Metastases in primary carcinoma of the lung as in malignancies elsewhere constitute the most important single prognostic factor. As might be imagined, the most frequent sites of metastatic involvement are the regional bronchial and mediastinal lymph nodes. In Wegelin's<sup>108</sup> series, which were observed at autopsy, there were lymphogenous metastases in 81.2 per cent. The bronchial and mediastinal nodes were involved in 93 of the 117 cases studied. Kikuth<sup>48</sup> believes that the regional lymph nodes are involved in practically all cases. In Koletsky's<sup>50</sup> series of 88 cases these nodes were involved in 82.9 per cent. Olson<sup>70</sup> observed the regional lymph nodes involved in 97 per cent in his series of 67 cases. In a series of 3,047 collected cases which we<sup>66,67,68,69</sup> previously reported, the lymph nodes were involved in 72.2 per cent, the liver was involved in 33.3 per cent, the pleura in 29.8 per cent, the other lung in 23.3 per cent, the osseous system in 21.3 per cent, the adrenals in 20.3 per cent, the kidneys in 17.5 per cent, the brain in 16.5 per cent, and the heart and pericardium in 12.7 per cent. It must be emphasized, however, that most of these cases were studied at autopsy. It is indeed fortunate that most metastases are in the regional lymph nodes which frequently act as a barrier sufficiently long to prevent extension to other parts of the body. This point is important also from the standpoint of therapy, because only by extirpation of the regional lymph nodes can one hope to effect a cure. It is of prognostic significance that the skin is involved occasionally. In a previous study it was found that the skin was involved in 3.6 per cent of the reported cases. Since this is true, it is imperative that all patients with suspected bronchiogenic carcinoma have a careful examination to determine the presence or absence of skin metastases. In our series we have seen 4 patients with skin metastases and the establishment of this finding has been made by histologic examination. Wegelin<sup>108</sup> found the skin involved in 6 of his 117 cases.

Next to the regional lymph nodes, the liver occupies first place in point of involvement. In Miller and Jones'<sup>64</sup> series of 808 collected cases the liver was involved in 248 (30.7 per cent); in Koletsky's<sup>50</sup> series, 40 per cent; in Olson's<sup>70</sup> series, 35.8 per cent. It is of interest that the adrenals follow next in frequency in both of these series of cases, that is, 38 per cent and 25.3 per cent respectively.

As emphasized above, such high incidence of metastases might indicate that surgical treatment of primary pulmonary malignancy is relatively hopeless. It should be realized that these figures are based on autopsy cases in which the lesions obviously were

advanced. The fact that in approximately 70 per cent of cases the metastases were limited to the regional lymph nodes makes the prognosis as regards the surgical treatment much better. Also that metastases occur most frequently in the regional lymph nodes is significant, because in pneumonectomy for malignant disease of the lung it is as important to remove the regional lymph nodes together with the primary focus as it is to do axillary dissection for lesions of the breast. Only in this way can radical operation be performed and a hope of cure be obtained. The necessity of total pneumonectomy in cases of bronchiogenic carcinoma has been emphasized previously by us<sup>66,67,68,69</sup> because it is imperative to remove not only the regional lymph nodes but also the collecting lymph channels which is frequently not possible in lobectomy. This contention is based upon the fundamental anatomic investigations of Rouvière.<sup>87</sup> Since surgical extirpation of the lung is indicated only when the disease is limited to the lung or the regional lymph nodes and the contiguous structures, it is desirable to review some of the statistics concerning operability. Churchill<sup>19</sup> found that in 155 cases of primary lung cancer, operation appeared feasible in 52 (33.6 per cent) but that resection was possible in only 27 (17.4 per cent) of the cases. In a previous publication<sup>67</sup> we showed that in a collected series of 139 cases only 68 (49 per cent) were found operable, whereas in our series of 30 cases at that time, 19 (63.3 per cent) were operable. In 116 cases which we have studied operation was done in 90 (77.6 per cent) and in 26 (22.4 per cent) operation was not considered feasible (Fig. 11). Of the entire group of 116 cases, 52 (44.8 per cent) had successful pneumonectomies and 38 (32.7 per cent) were explored and found to be inoperable, and 26 (22.4 per cent) were not considered suited for operation (Fig. 12). Of the 90 cases in

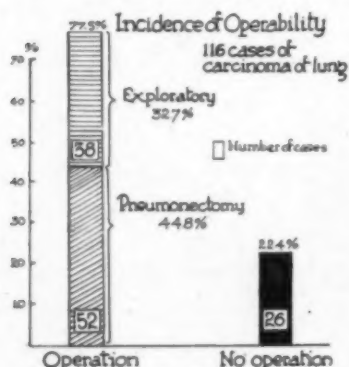


Figure 11

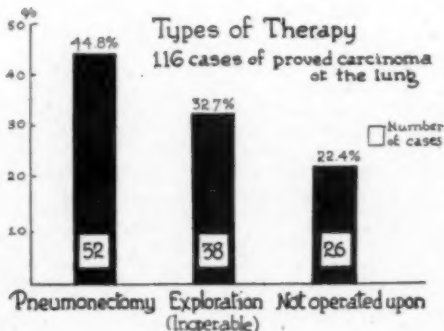


Figure 12

Fig. 11: Graphic representation of incidence of operability in 116 cases of carcinoma of the lung.—Fig. 12: Graphic representation of types of therapy in 116 cases of proved carcinoma of the lung.



which operation was done, pneumonectomy was possible in 52 (57.7 per cent) and exploration in 38 (42.2 per cent) (Fig. 13). In the 52 cases in which pneumonectomy was possible, metastasis was found in the mediastinal nodes in 28 (53.8 per cent), they were suspected in an additional 11 (21.2 per cent), and the lymph nodes were free from metastasis in 13 (25 per cent) (Fig. 14). Brock<sup>15</sup> reports 187 cases. Thirty-seven had thoracotomies advised, 4 refused, 33 (18 per cent) had a thoracotomy done, 14 were operable by pneumonectomy, and one by lobectomy, that is, 8 per cent of the entire group. Eighteen were inoperable at the time of thoracotomy, making a total of 172 (92 per cent) that were inoperable in the entire group. Fetter<sup>30</sup> in a series of 31 proved cases of carcinoma of the lung at the Philadelphia Naval Hospital, states that only 7 were considered candidates for exploratory thoracotomy. One refused operation and all the other 6 were found to be inoperable. Overholt<sup>72</sup> reports 165 cases of which the diagnosis was verified during life in 156 and made at autopsy in 9. Of this number, 71 (46 per cent) were not even considered for surgery. Eighty-five (51 per cent) were offered surgery, but 5 refused. Of the 80 who were operated upon, 32 (42.6 per cent) had curative resection, 9 had a palliative resection, and 39 were inoperable. Overholt<sup>73</sup> states that 2 out of every 5 cases explored were found to be free of an extrapulmonary extension.

**Clinical Picture:** There are no characteristic symptoms and signs of bronchiogenic carcinoma. In fact the condition can simulate almost anything. The onset of the condition is usually insidious and the symptoms are likely to be attributed to some other cause. In a large number of cases there is a history of an antecedent respiratory tract infection. Many of our patients dated their ill-

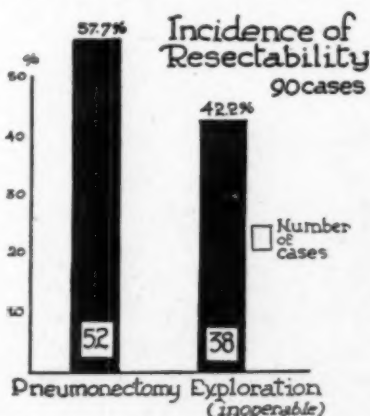


Figure 13

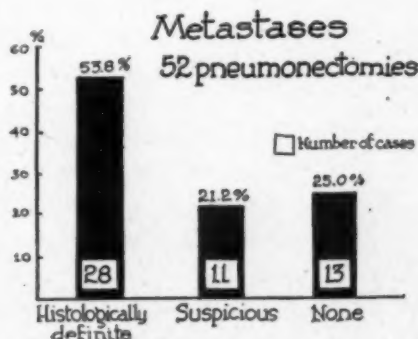


Figure 14

Fig. 13: Graphic representation of incidence of resectability in 90 cases.

Fig. 14: Graphic representation of metastases in authors' 52 pneumonectomies.

ness as beginning with a recent attack of influenza or other lower respiratory tract infection from which they had never completely recovered. The symptoms are frequently disregarded because they are attributed to smoking. Hochberg and Lederer<sup>40</sup> state: "At present when a cough seems to be habitual with the average patient, every patient with a cough cannot be looked upon with suspicion as having neoplasm of the lung." It is unfortunate that the adult population is suffering with habitual cough which is undoubtedly due to the ubiquitous use of tobacco. The fact remains that the most frequent symptom of bronchiogenic carcinoma is cough. Brunn<sup>16</sup> and Simons<sup>94</sup> found cough to occur in 65 per cent and 72 per cent in their respective collected cases. In Brines and Kenning's<sup>12</sup> series, cough was present in 87 per cent, whereas in Frissell and Knox's<sup>33</sup> series it was present in 91 per cent and was the first symptom in 23.8 per cent. Brock<sup>15</sup> has emphasized the possibility of pulmonary malignancy being masked by an antecedent pulmonary lesion without the diagnosis being suspected. He states that delayed resolution or unresolved pneumonia and chronic lung sepsis should be suspected as being caused by bronchiogenic carcinoma. Eighty-two per cent of Overholt's<sup>72</sup> cases complained of chronic cough when they first consulted their physician and in 63 per cent the condition was incorrectly diagnosed by the first doctor consulted. The various conditions for which treatment was given in the 63 per cent were as follows: tuberculosis, 40 cases; unresolved pneumonia, 18; lung abscess, 13; bronchitis, 11; asthma, 5; heart disease, 4; pleurisy, 4; metastatic malignancy, 2; and miscellaneous, 9. Staehelin<sup>97</sup> found that cough was present in all but 16 per cent of his cases.

Hochberg and Lederer<sup>40</sup> emphasized the fact that patients with carcinoma of the lung may have no symptoms referable to the chest at the time of admission. Of 47 patients who had thoracic symptoms, cough was present in 91.5 per cent. In the 13 cases in which there were no thoracic symptoms, the most frequent complaints were as follows: epigastric distress, 7 (53.9 per cent); anorexia, 7 (53.9 per cent); nausea and vomiting, 6 (46.2 per cent); malaise, 5 (38.5 per cent); loss of weight, 4 (30.8 per cent); constipation, 4 (30.8 per cent); aphasia, 2 (15.1 per cent). Expectoration is a rather frequent manifestation. When associated with hemoptysis it is of great value. In 25.8 per cent of Brines and Kenning's<sup>12</sup> series, symptoms of acute infection of the respiratory tract were the initial manifestations. In their series, hemoptysis was the chief complaint in 18.9 per cent, but was present some time during the course of the illness in 48.3 per cent. Simons<sup>94</sup> reported this symptom in 40 per cent of his collected series. Hemoptysis was present in 61 of Overholt's<sup>72</sup> cases. Thoracic discomfort may be a mani-

festation. It was present in 60 per cent, and was the chief complaint in 44.8 per cent of Brines and Kenning's<sup>12</sup> series. These respective incidences were 71.7 per cent and 21.7 per cent in Frisell's and Knox's<sup>33</sup> series. Simons<sup>94</sup> found it present in 59.8 per cent of his series. It was present in 70 of Overholt's<sup>72</sup> 165 cases. Dyspnea is an infrequent manifestation, and is occasionally out of proportion to the pulmonary involvement. In 2 of our cases it was the most prominent clinical manifestation; it is usually a late manifestation, however. It was present in 56 of Overholt's<sup>72</sup> 165 cases and in 73 of Staehelin's<sup>97</sup> 115 cases. It was not stated whether dyspnea was severe or not. Occasionally the symptoms are referable only to the gastro-intestinal tract. In 4 of our cases the original manifestation was nausea and vomiting. In our 52 cases in which a pneumonectomy was done, cough was present in 47 (90.3 per cent), loss in weight, 33 cases (63.4 per cent), previous respiratory infection, 29 cases (55.7 per cent), hemoptysis in 29 cases (55.7 per cent), dyspnea in 25 cases (48.1 per cent), pain in the chest in 17 cases (32.6 per cent) (Fig. 15). In a relatively recent case the patient thought that he had a sinusitis and, because he was losing weight, consulted a physician. There were no symptoms referable to his chest whatsoever, and it was only on routine chest x-ray that the bronchiogenic lesion was discovered.

The physical findings in a case of bronchiogenic carcinoma vary considerably according to the location and the amount of involvement. In the centrally located tumor, even though the lesion may be quite small, if there is sufficient growth of the tumor to occlude the involved bronchus, the physical findings are quite marked, being those of atelectasis. On the other hand, a relatively small tumor may produce no changes which can be demonstrated on

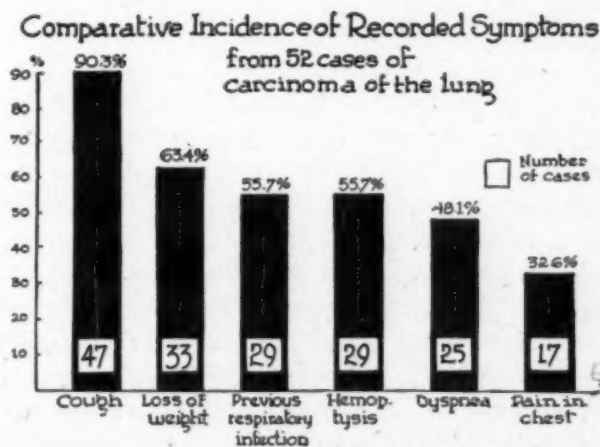


Fig. 15: Graphic representation of comparative incidence of recorded symptoms from 52 cases of carcinoma of the lung.



physical examination. The clinical picture of bronchiogenic carcinoma varies, but the lesion is likely to be overlooked unless one always considers the possibility of its occurrence. Every respiratory disturbance in a patient past forty years of age which cannot be explained otherwise should be investigated in order to exclude a primary bronchiogenic neoplasm. An acute respiratory tract infection which does not subside within a reasonable period of time, in a patient past forty years of age, especially a man, should be considered as caused by malignant neoplasm of the lung until it has been definitely excluded. The occurrence of a pulmonary abscess in an older individual who has not had an antecedent operation or an antecedent acute respiratory tract infection must be considered to be caused by malignant disease until proved otherwise. Only by such constant vigilance can an early diagnosis of carcinoma of the lung be made.

The duration of symptoms in the reported series varies considerably, but generally the interval from the onset of symptoms and death is relatively short. It is extremely difficult, however, to determine just when the symptoms began. Koletsky<sup>50</sup> states that the average duration of symptoms from the onset until death is about six months. Brines and Kenning<sup>12</sup> found that 4 per cent of patients had symptoms less than a month, 27.8 per cent from one to three months, 39.7 from three to six months, 9.2 per cent from six to nine months, and 7 per cent more than a year. King<sup>49</sup> found the average duration of life to be 9.3 months. Frissell and Knox<sup>33</sup> had one patient with symptoms less than one month's duration, 15 with symptoms of less than three months' duration, 13 with symptoms of less than six months' duration, 9 with symptoms of less than twelve months' duration, 5 with symptoms of less than fifteen months, and only 3 with symptoms lasting over fifteen months. The average length of life in D'Aunoy, Pearson, and Halpert's<sup>23</sup> series was five months. Whereas these figures would indicate that bronchiogenic carcinoma is a rapidly progressing condition, this contention is not borne out by our clinical experience. The histories in these cases were probably taken by persons who did not consider the possibility of carcinoma of the lung and consequently made no serious effort to elicit the inaugural symptoms. It is our belief that most cases of primary bronchiogenic carcinoma are relatively slow-growing and can exist for a long period of time before symptoms are produced. Overholt<sup>72</sup> found that in 125 cases in which the data were accurate, only 36 per cent placed themselves under a doctor's care within a month of the onset of symptoms. Most of them did not consult a physician until three months after the onset and did not have an x-ray until an additional three months had elapsed. The diagnosis was usually not estab-

lished until nine months had elapsed. Robertson<sup>82</sup> found that only 34 per cent of the cases of bronchiogenic carcinoma which he saw had been accurately diagnosed by the family physician before being sent in.

*Diagnosis.* The diagnosis of bronchiogenic carcinoma is generally not difficult if one will only consider the possibility of its existence. As mentioned previously, it should be suspected in every case, particularly in a male past forty years of age who had an unexplained respiratory or digestive complaint. In the past, undoubtedly most pulmonary carcinomas have been incorrectly diagnosed. Sehrt<sup>82</sup> in 1904, reported only 3.3 per cent of antemortem diagnoses in a series of 178 cases. Careful roentgenographic studies are extremely important, although in the early cases roentgenograms may show nothing. Roentgenographic interpretation of centrally located lesions is generally more difficult because of confusion with hilar shadows produced by other lesions and by normal structures. This is particularly significant because most of the pulmonary neoplasia are in the hilar region. The roentgenographic film may show a shadow produced by the tumor itself, a shadow produced by metastatic mediastinal nodes, or a shadow produced by an atelectatic lung. Occasionally a very small peripherally located tumor not large enough to cast a shadow will give rise to a large mediastinal mass which may be mistaken for the primary tumor. A correct diagnosis was made in only 36.8 per cent of Probst's<sup>78</sup> cases, 30 per cent of Kikuth's,<sup>48</sup> and in 20 per cent of those of Cottin and his co-workers.<sup>20</sup> Koletsky<sup>50</sup> found that a correct diagnosis was made in only 56 per cent of his cases. The significance of roentgen examination in cases of bronchiogenic carcinoma is appreciated when one considers the high incidence of correct diagnosis obtained by this procedure. Andrus<sup>2</sup> found the condition was indicated roentgenologically in 58 (90.6 per cent) of 64 cases. Vinson<sup>103</sup> reports a correct diagnosis roentgenologically in 97.1 per cent. Of 165 cases of primary bronchiogenic carcinoma reported by Overholt,<sup>72</sup> 156 were verified during life, and in 9 the diagnosis was made at autopsy.

The most reliable method of making a positive diagnosis of bronchiogenic carcinoma is the bronchoscopic visualization of the tumor permitting biopsy of the lesion. Unfortunately, bronchoscopy is not performed often enough. It was done in only 20 per cent of Koletsky's<sup>50</sup> cases, in 50 per cent of Brines and Kenning's<sup>12</sup> cases, and in 50 per cent of King's<sup>49</sup> cases. Bronchoscopy should give a positive diagnosis in about 70 per cent of cases, because this is approximately the incidence of hilar involvement. Holinger and Hara<sup>42</sup> recently reported that positive diagnoses were made bronchoscopically in 78.4 per cent. Hilar lesions which are located

in the upper lobe bronchi may be beyond the vision of the bronchoscopist. By means of bronchoscopy, positive diagnosis was made in 62 per cent of Overholt's<sup>72</sup> cases. In 116 cases of carcinoma of the lung which we studied, a bronchoscopy was done in 70. A biopsy was done in 36 (51.4 per cent) (Fig. 16). Of these 36 cases the findings were positive in 23 (63.8 per cent) and negative in 13 (36.1 per cent) (Fig. 17). In the 52 cases in which a pneumonectomy was done, the diagnosis was made on clinical findings in all (100 per cent), on radiographic findings in only 23 (44.2 per cent), whereas a positive biopsy obtained by bronchoscopy was made in 17 (32.6 per cent) (Fig. 18). In the 52 pneumonectomy cases, a bronchoscopy was done in 46 (88.4 per cent). Of the 46 in which

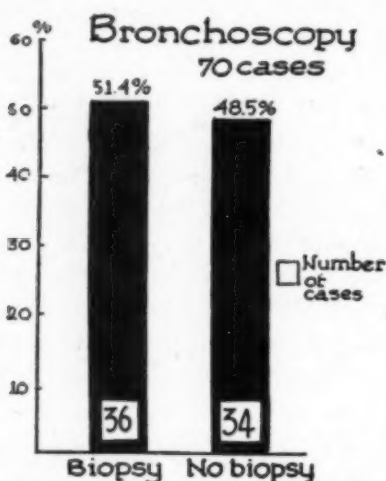


Figure 16

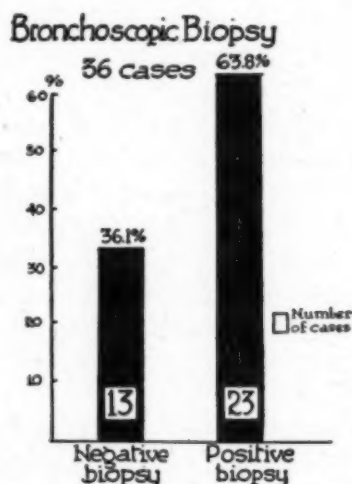


Figure 17

Fig. 16: Graphic representation of bronchoscopy in 70 cases of carcinoma of the lung.—Fig. 17: Graphic representation of results of bronchoscopic biopsy in 36 cases of carcinoma of the lung.

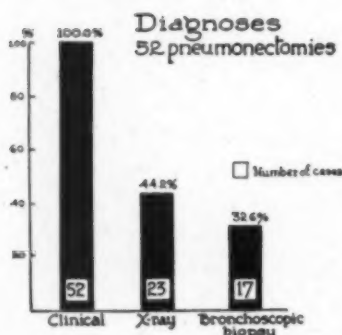


Figure 18

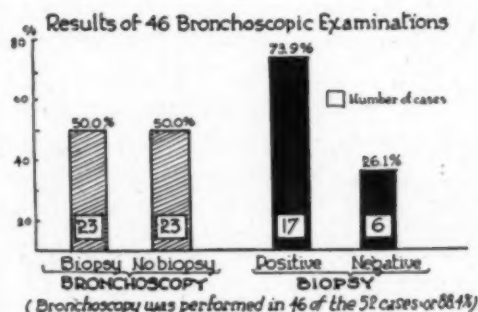


Figure 19

Fig. 18: Graphic representation of methods of diagnosis in authors' 52 pneumonectomies.—Fig. 19: Graphic representation of results of bronchoscopic examinations in 46 of authors' 52 pneumonectomies.

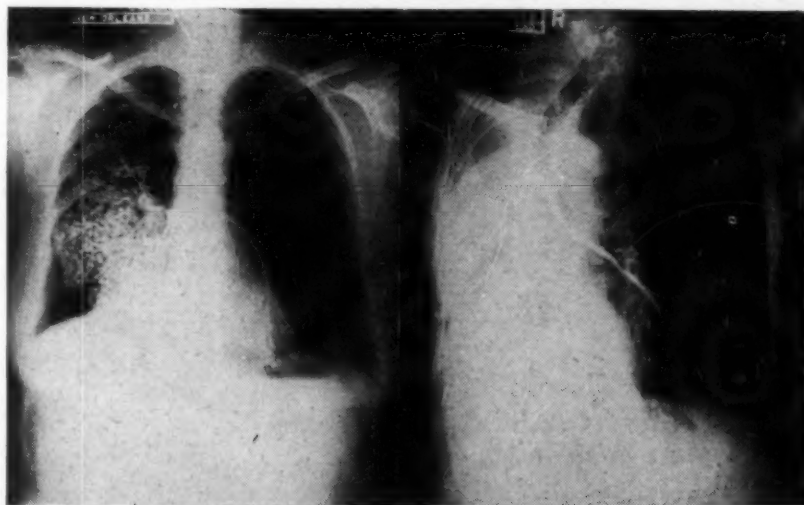


a bronchoscopy was done, biopsy was considered possible in only 23 (50 per cent) (Fig. 19). Of the 23 cases in which a biopsy was done, there was a positive finding in 17 (73.9 per cent), a negative finding in 6 (26.1 per cent).

Bronchography also is a valuable diagnostic method. It is particularly advantageous in those cases in which a mass does not cast a shadow and in cases in which the lesion is in a bronchus which cannot be visualized by the bronchoscopist. Whereas we originally thought that the filling of the bronchial tree by means of the passive technique was probably sufficient, we now feel that the visualization of the bronchial tree by means of a catheter introduced into the trachea is necessary to visualize the bronchi satisfactorily. Partial or complete filling defects in the bronchogram are of diagnostic importance (Figs. 20, 21).

In all suspected bronchiogenic carcinomas, the expectorated material should be examined microscopically to determine the presence or the absence of tumor cells. Dudgeon<sup>26</sup> found carcinoma cells in 60 per cent of cases in whom a positive diagnosis of pulmonary neoplasm was subsequently proved. This method of diagnosis has been used successfully by Barrett<sup>3</sup> and by Gamba and Lamberti.<sup>34</sup>

In examination of sputum for tumor cells, as emphasized by Edwards,<sup>27</sup> it is imperative that the pathologist examining the tissue be particularly trained in the recognition of these cells.



*Figure 20*

*Figure 21*

*Fig. 20:* Bronchogram showing complete obstruction of the right lower lobe bronchus.—*Fig. 21:* Bronchogram showing complete obstruction of the right main stem bronchus resulting in massive collapse of the entire right lung with marked displacement of the mediastinum toward the affected side.

Similarly, the demonstration, according to Mandlebaum's<sup>50</sup> technique, of malignant cells in the pleural fluid of those cases in which there has been extension to the pleura is of diagnostic importance. Seecof<sup>51</sup> demonstrated malignant cells in about 70 per cent of cases and Goldman,<sup>35</sup> in about 80 per cent. This method is of little use early in the disease, however, because of late extension to the periphery except in peripherally located lesions. Its value is principally prognostic.

Aspiration biopsy has been suggested as a diagnostic procedure.<sup>22</sup> We are unequivocally opposed to this method of diagnosis and believe that it should be condemned because of the danger of implant metastases occurring in the pleura as a result of removal of the specimen. We have had two cases in which this occurred, and such a case has been reported by Dolley and Jones.<sup>24</sup>

*Treatment.* Although surgical extirpation and irradiation are applicable to many malignancies elsewhere in the body, it is the consensus at the present time that the only curative treatment of carcinoma of the lung is removal of the process. Whereas an occasional case can be benefited by irradiation, generally the results are of little or no value. Irradiation, either external or internal, (by means of implantation of radon) has been used as a palliative procedure and is of value in hopeless cases in relieving the manifestations. In a series of patients treated by irradiation, King<sup>49</sup> found that the average duration of life of those treated was 15.4 months as compared with 9.3 months for the entire series. Chandler and Potter<sup>18</sup> found that the average duration of life for 59 patients treated by irradiation was eleven months, whereas that for 61 untreated patients was six months. Omerod<sup>71</sup> also observed a slight increase in the duration of life of treated patients. Brock,<sup>13</sup> in a series of 106 cases advised local radon therapy in 10. In all but 3 of these the radon therapy was suggested merely as a placebo. He stated that irradiation has little to do with prolonging life and in those cases in which the patient's life is apparently prolonged, it is probably because the carcinoma grows slowly. He referred to a patient who lived eight years after his first symptoms without any treatment. Saupe<sup>89</sup> similarly found that only about 15 per cent of 200 patients showed definite improvement following irradiation. Numerous others<sup>9,32,33,43,46,47,61,74,83,84,88,93,95,96,100</sup> have also observed that irradiation for carcinoma of the lung is of little if any value. Overholt and Rumel<sup>73</sup> found that patients subjected to irradiation lived only two-thirds as long as the untreated cases. Watson and Urban<sup>107</sup> found that 82 patients with carcinoma of the lung showed symptomatic improvement for an average duration of four months following treatment with a million volt technique. Leddy<sup>52</sup> believes that in all cases with in-

operable lesions the patient should receive at least one course of deep x-ray therapy because he contends that the life expectancy can be increased in this way. He states that they have had 5 of 125 cases treated with irradiation which have survived five years after completion of the treatment. The lesion in these cases was an adenocarcinoma. Pohle,<sup>76</sup> reporting the results from radiation in 41 cases in which a course of radiation was completed, found that whereas one patient survived seventy-eight months, only 14 per cent survived twelve months, with an average survival period of 8.6 months. Widmann<sup>110</sup> believes that irradiation is of definite palliative value. He compared a series of 167 cases which were irradiated with a series of 119 cases receiving no treatment. None of the latter control group lived as long as one year, and 112 (94 per cent) lived less than six months. Of the 167 irradiated cases, 18 lived twelve months or longer from the time of diagnosis and five lived two to six years. Schinz<sup>90</sup> reported from the Zurich Radiologic Institute the following results of 79 cases treated with no evidence of metastasis: 65 per cent were living at the end of three months, but only sixteen per cent were improved and able to work. At the end of six months, 35 per cent were living and only 7.5 per cent were improved and able to work. At the end of a year only 10 per cent were living and only 5 per cent were able to work. Of 20 patients who had definite metastases, only 25 per cent were living two months after treatment and only 6.2 per cent were able to work; 6.2 per cent were alive three months after treatment and only 2.5 per cent were improved and able to work. Schinz<sup>90</sup> states that of all malignant diseases, radiation offers the least in primary bronchiogenic malignancies. As irradiation offers practically no chance of cure, it should be reserved for the inoperable case of bronchiogenic carcinoma or for cases in which operation is definitely contraindicated.

The only curative treatment of bronchiogenic carcinoma is surgical extirpation. The method of choice is removal of the entire lung on the affected side even though the lesion may apparently be limited to a single lobe. As previously reported by us,<sup>66,67,68,69</sup> we believe that, although in a number of reported cases simple resection of the involved lobe has been performed, any procedure short of removal of the entire involved lung is irrational. Only by complete excision of the entire lung can the primary cause be adequately removed. Moreover, lobectomy obviously does not permit removal of the regional lymph nodes. Another reason for total pneumonectomy is that approximately 75 per cent of pulmonary neoplasms originate in the proximal bronchi. As was shown by Bonniot, Monod, and Evrard,<sup>10</sup> it is not possible to divide the bronchus high enough on the pedicle of the lung to permit division of



the main bronchus without injuring the pericardium or other mediastinal structures.

As a preliminary procedure we are of the opinion that artificial pneumothorax should be done in every instance. This is usually done gradually, the amount of intrapleural pressure being increased until it is definitely on the positive side. A preoperative pneumothorax is of diagnostic importance in determining the presence, extent, and location of adhesions, thus permitting the preoperative planning of the operative procedure. Another decided advantage of preoperative pneumothorax is gradual compression of the pulmonary bed, which gives the cardiovascular system time to compensate for the increased peripheral resistance in this area and thus mitigate the sudden change which follows the cutting off of the blood to the involved lung at the time of the ligation of the pulmonary vessels. This is particularly true in patients whose cardiac reserve is diminished and in whom malignant tumors of the lung are likely to occur. We do not believe that preoperative instillation of meat broth bouillon into the pleural cavity, as suggested by Rienhoff<sup>79,80</sup> is necessary. The patient's condition should be brought to as nearly normal as possible. If there is any anemia, transfusion of whole blood should be done preoperatively. The administration of vitamin C to these patients is desirable since many of them have a vitamin C deficiency because of the associated infection. Whereas older persons do not withstand an operative procedure so well as younger ones, we have felt that age in itself is not necessarily a contraindication to pneumonectomy and have performed the procedure in a physician seventy-two years of age.

*Anesthesia.* We prefer cyclopropane inhalation positive pressure anesthesia and believe that there is nothing more important than a trained anesthetist on the thoracic team, because of the constant supervision necessary in these cases. During the operation an infusion is given continuously. A DeBakey transfusion needle is inserted into one of the ankle veins and physiologic saline solution drip is started before the patient is draped. At least 1,500 cc. of whole blood are available for each case and generally 500 to 1,000 cc. are administered during the operation. Usually the amount of blood lost is not great. It is excessive only when there are a large number of vascular adhesions or rarely when hemorrhage results from slipping of a ligature on the pulmonary artery or one of the pulmonary veins. We have used both the anterior incision, as suggested by Rienhoff,<sup>79,80</sup> and the posterolateral incision, as popularized by Crafoord<sup>21</sup>; and we are becoming more convinced that the anterior approach is preferable in most cases in which a pneumonectomy is to be done for neoplastic disease. The pos-

terolateral incision is particularly undesirable in older persons whose cardiovascular system is already impaired, because the placing of the patient on his sound side further interferes with his cardiorespiratory functions. It also has the disadvantage that the mediastinum in which almost all the dissection is done gravitates away from the operative field. The great advantage of the posterolateral incision is that if there are dense adhesions posteriorly and laterally, these can be divided more readily under direct vision. Whereas we prefer the anterior approach in doing a pneumonectomy for neoplastic disease, we almost invariably use the posterolateral approach in doing lobectomies for inflammatory disease.

When the anterior approach is used, with the patient supine, the side to be operated upon is elevated by placing sandbags beneath the shoulder and the hip on the affected side. As advocated by Rienhoff,<sup>79,80</sup> incision is made in the third intercostal space extending from the midportion of the sternum to the midaxillary line. After division of the skin, fascia, and pectoralis muscles, the intercostal muscles and pleura are incised close to the upper border of the fourth rib. The incision is extended medially to the region of the costal cartilages. The adjacent costal cartilages, namely the third and fourth, are divided in their parasternal portions and the medial portion of each costal cartilage is removed by means of rongeur. A transfixion suture of crochet cotton (No. 20) is placed around the internal mammary vessels in the second and fourth intercostal spaces, securing these structures. Following this, the intercostal muscles, pleura, and the internal mammary vessels are divided to the sternum. The third and fourth ribs are separated by means of a rib spreader and after determining the presence or absence of adhesions, extirpation of the lung is begun. The adhesions are divided as much by sharp dissection as possible. If they are very dense, it is frequently desirable to remove the parietal pleura rather than to run the risk of tearing into the lung. Unless the case is obviously inoperable because of fixation of the mass to the aorta or to the trachea, extirpation is desirable. In many cases which are apparently inoperable in the beginning, after mobilization of the mediastinal structures, extirpation of the lung and its contained tumor is found possible. An incision is made in the mediastinal pleura posterior to the phrenic nerve. The incision is extended above and below around the hilus. If the lesion is on the right side, the vena azygos major is isolated, doubly ligated, and doubly transfixed, using crochet cotton (No. 20), and then is divided. The individual hilar structures are isolated, usually the superior pulmonary vein first, followed by the pulmonary artery, and finally by the inferior pulmonary vein.

Each of these is doubly ligated and doubly transfixed. An Ochsner forceps is placed on the lung side of the vessel before its division and the vessel divided immediately adjacent to the clamp so that a relatively long portion of the vessel is left on the cardiac side. In three recent cases, it was necessary to ligate and divide the pulmonary artery and two pulmonary veins intrapericardially because of the extension of the mass into the mediastinum. In 2 of these it was necessary to extirpate a large portion of the pericardium in order to remove the extension to that viscus. One was a right-sided lesion and one was a left-sided lesion. Neither of these patients suffered any untoward symptoms.

The mediastinal nodes are freed from the mediastinum and the bronchus is isolated high, close to the carina. Two crushing clamps are applied to the bronchus just beyond the carina and the bronchus is divided by means of a scalpel between the clamps. The posterior reflection of the pleura is then divided, and the lung is removed. The bronchus is closed by introducing a series of crochet cotton (No. 20) mattress sutures proximal to the clamp. The two end sutures are tied before the clamp is removed. Following removal of the clamp the mattress sutures are tied. The crushed end of the bronchus is then closed with interrupted quilting cotton sutures. Following closure of the bronchus it is imperative, as emphasized by Rienhoff<sup>79,80</sup> to pleuralize the bronchial stump. It is our belief that this is probably the most important maneuver in the prevention of an insufficiency of the stump. Whenever possible, the edges of the mediastinal pleura are approximated, covering the bronchus and the ligated vessels. If there is an insufficient amount of pleura to cover the bronchial stump satisfactorily, a pleural flap from the pericardium or from the mediastinal pleura is swung into position to cover the bronchus. After careful pleuralization of the bronchial stump, the thoracic wall is closed without drainage, using crochet cotton (No. 10) sutures to approximate the adjacent ribs by placing the sutures around the ribs. These are tightened while the ribs are approximated by means of cats paw retractors. The muscles and fascia are approximated by means of interrupted quilting cotton sutures. The skin is closed with a continuous quilting cotton suture. A compression bandage with machinists' waste is applied.

Immediately postoperatively a bronchoscopy is done in order to aspirate any secretion that might be present in the tracheobronchial tree. In this way the postoperative convalescence is much easier.

*Postoperative Treatment.* Postoperatively, the patients who have had a total pneumonectomy for primary bronchiogenic carcinoma get along very well. They are given oxygen, usually with a Lombard



mask, for twenty-four hours. The administration of intravenous fluids (usually 5 per cent dextrose) is continued until the patient can drink, which is usually twelve to fourteen hours after operation. The patient is kept in the supine position or lying on the affected side for the first day. On the first postoperative day the patient is propped up in bed. Generally the morning after the operation, the patient is able to eat without any difficulty and takes a full diet by the middle of the second day. He is usually out of bed on the third or fourth day, and with few exceptions is able to leave the hospital between the seventh and the tenth days. We have never seen any undesirable sequelae because of the early ambulation in these cases; in fact, the contrary has been observed. They seem to improve more rapidly and certainly are better as far as their morale is concerned because of the early ambulation.

As all of these patients are older and as they have malignant disease, they are particular candidates for the development of intravenous clotting. In order to obviate this, in addition to early ambulation, we apply compression bandages from the toes to the groins, which by compressing the superficial veins will increase the flow of blood in the deep veins. We have never observed intravenous clotting in any of these cases, because of these prophylactic measures.

*Results of Pneumonectomy.* Total pneumonectomy for primary malignancy of the lung is a formidable procedure, and until relatively recently carried a prohibitively high mortality rate. When one realizes, however, that the first successful pneumonectomy

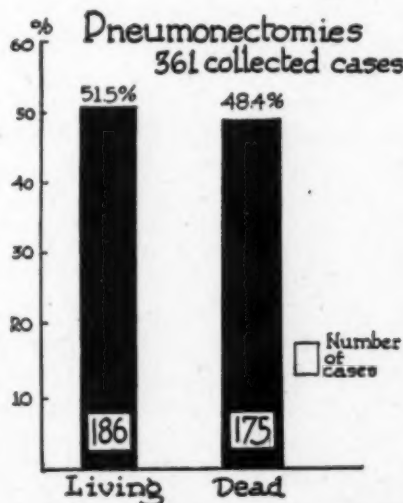


Fig. 22: Graphic representation of results of pneumonectomies in 361 collected cases.

for primary malignancy of the lung was accomplished only eleven years ago, one can appreciate what has been accomplished in this period of time. We have collected a total of 361 total pneumonectomies for primary bronchiogenic carcinoma. Of this number, 51.5 per cent are living and 48.4 per cent are dead (Fig. 22). Evarts Graham<sup>37</sup> recently reported a series of 81 cases of pneumonectomy for primary neoplastic disease, with a combined mortality rate of 30 per cent. In the last 25 pneumonectomies for neoplasms there were only 3 deaths, a mortality rate of 12 per cent. Overholt,<sup>72</sup> in a series of 32 cases in which a curative resection of the lung was done, had 6 operative deaths; 2 died of carcinoma and 4 of other causes. Johnson<sup>44</sup> reports 13 cases of pneumonectomy for bronchiogenic carcinoma with 1 hospital death and 2 subsequent deaths from metastasis. Two of the patients have gone two years without any evidence of metastasis, 2 are well after one year, and 6 are less than one year. In the 52 cases in which we have performed total pneumonectomies for primary bronchiogenic carcinoma, 22 (42.3 per cent) are living and 30 (57.7 per cent) are dead (Fig. 23). The first patient operated upon in 1936 is still alive and well. Of the 22 living patients, 1 is living eight years postoperatively, 1 six years, 2 five years, 2 four years, 3 three years, 1 two years, 6 one year, and 6 less than one year. Of the 30 patients who died, 16 (53.3 per cent) died in the hospital and 14 (46.6 per cent) died after leaving the hospital. Only 2 (3.8 per cent) of the fifty-two cases had a ruptured bronchus. An additional 6 (11.5 per cent) developed postoperative infection in the form of an empyema (Fig. 24). Since 1941, a total pneumonectomy for bronchiogenic carcinoma has been done in 30 cases. Of these, 2 (6.6 per cent) died in the hospital and 12 (40 per cent) died after leaving the hospital (Fig. 25). The hospital mortality rate in the

Mortality in 52 Pneumonectomies  
authors' cases

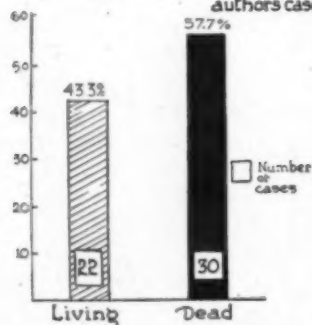


Figure 23

Results in 52 Pneumonectomies

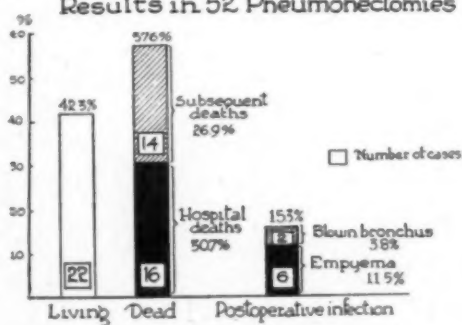


Figure 24

Fig. 23: Graphic representation of mortality in authors' 52 pneumonectomies.—Fig. 24: Graphic representation of results in 52 pneumonectomies performed by authors.

earlier cases, before 1941, was 45.4 per cent, whereas in 30 cases since 1941 the hospital mortality rate has been 6.6 per cent (Fig. 26). This decrease in mortality rate has been made possible by the development of a thoracic team and also by increased experience. An operative mortality rate of 6.6 per cent makes pneumonectomy feasible and a relatively safe procedure. The late mortality which is caused by distant metastases will be materially decreased only when diagnoses are made earlier so that curative surgery can be instituted when the lesion is still limited to the lung. Although a large number of our patients died subsequently from distant metastases, we believe pneumonectomy even in these individuals was worth while, because it removed the diseased and usually suppurating lung, in this way relieved the patient of his suffering, which almost invariably accompanied progressing neoplasia of the lung.

### SUMMARY

1. The incidence of primary bronchiogenic carcinoma is increasing. It occurs approximately as frequently as does gastric carcinoma.

2. The lesion occurs primarily in males, approximately 80 per cent occurring in this sex.

3. The cause of primary bronchiogenic carcinoma is not known, but the increased incidence of the condition parallels the increased frequency of smoking, and this probably is of etiologic importance.

4. Metastases from bronchiogenic carcinoma may be widespread; but early, are limited to the regional lymph nodes, that is, the bronchial and mediastinal. In 52 cases in which pneumonectomy was done, metastases were found in the mediastinal nodes in 28

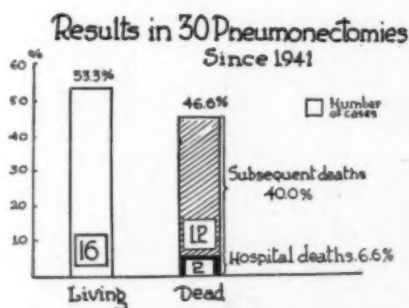


Figure 25

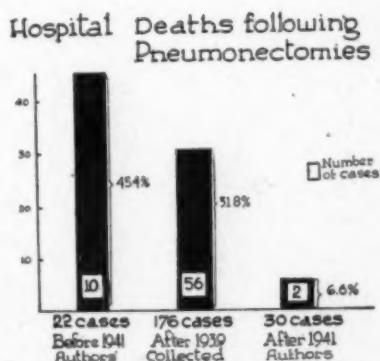


Figure 26

Fig. 25: Graphic representation of results in 30 pneumonectomies performed by authors since 1941.—Fig. 26: Graphic representation of hospital deaths following pneumonectomies in collected and authors' cases.



(53.8 per cent), they were suspected in an additional 11 (21.2 per cent), and the lymph nodes were free in 13 (25 per cent).

5. In 116 cases studied, operation was done in 90 (77.6 per cent). Of the 90 cases in which thoracotomy was done, pneumonectomy was possible in 52 (57.5 per cent). Of the 116 cases, 52 (44.8 per cent) had successful pneumonectomies, 35 (32.8 per cent) were explored and found to be inoperable, and 26 (22.4 per cent) were not considered suitable for operation.

6. There is no characteristic clinical picture of bronchiogenic carcinoma. Unexplained thoracic discomfort in a male past forty years of age should be considered as possibly caused by primary bronchiogenic carcinoma until proved otherwise. In the 52 pneumonectomy cases, cough was present in 47 (90.3 per cent), loss of weight in 33 (63.4 per cent), a history of previous respiratory infection in 29 (55.7 per cent), hemoptysis in 29 (55.7 per cent), dyspnea in 25 (48.1 per cent), pain in the chest in 17 (32.6 per cent).

7. The diagnosis of primary bronchiogenic carcinoma is not difficult if the condition is only suspected. X-ray, bronchoscopic visualization, bronchoscopic biopsy, and bronchography are of diagnostic aid.

8. The treatment of bronchiogenic carcinoma is pneumonectomy. Irradiation offers nothing except palliation.

9. In a series of 361 total pneumonectomies for primary bronchiogenic carcinoma, 51.5 per cent are living and 44.4 per cent are dead. In the 52 cases operated upon by the authors, 22 (42.3 per cent) are living and 30 (57.7 per cent) are dead. Of the 22 living patients, one is living eight years postoperatively, one six years, 2 five years, 2 four years, 3 three years, one two years, 6 one year, and 6 less than one year. Since 1941, 30 cases have had a total pneumonectomy with 2 hospital deaths (6.6 per cent).

#### RESUMEN

1. La aparición del carcinoma broncogénico primario va en vías de aumento; ocurre, aproximadamente, con tanta frecuencia como el carcinoma gástrico.

2. La lesión ocurre principalmente en los hombres; el 80 por ciento, aproximadamente, sobreviene en este sexo.

3. No se conoce la causa del carcinoma broncogénico primario, pero el aumento de su aparición corre parejo con el aumento en la frecuencia del hábito de fumar y, probablemente, éste tiene importancia etiológica.

4. Las metástasis del carcinoma broncogénico pueden ser diseminadas; pero, al principio, se encuentran limitadas a los ganglios linfáticos regionales, es decir, a los bronquiales y mediastínicos.

De 52 casos en los que se ejecutó la neumonectomía, se descubrió metástasis en los ganglios mediastínicos en 28 (53.8 por ciento), se sospechó su presencia en 11 casos más (21.2 por ciento) y los ganglios linfáticos se encontraron normales en 13 (25 por ciento).

5. De 116 casos estudiados, se operó a 90 (77.6 por ciento). De los 90 casos a los que se hizo la toracotomía, fue posible la neumonectomía en 52 (57.5 por ciento). De los 116 casos, a 52 (44.8 por ciento) se les hizo neumonectomías con buen éxito, a 35 (32.8 por ciento) se les exploró y se les encontró no ser operables, y a 26 (22.4 por ciento) se les juzgó no ser apropiados para operación alguna.

6. No existe cuadro clínico característico del carcinoma broncogénico. Malestar torácico de origen desconocido en hombres de más de cuarenta años de edad debe considerarse que es posiblemente causado por carcinoma broncogénico primario hasta que se pruebe lo contrario. En los 52 casos de neumonectomía, existía tos en 47 (90.3 por ciento), pérdida de peso en 33 (63.4 por ciento), historia de infección respiratoria antecedente en 29 (55.7 por ciento), hemoptisis en 29 (55.7 por ciento), disnea en 25 (48.1 por ciento), dolor en el pecho en 17 (32.6 por ciento).

7. No es difícil el diagnóstico del carcinoma broncogénico primario si se le tiene en cuenta. Los rayos X, la visualización y la biopsia broncoscópicas y la broncografía ayudan a hacer el diagnóstico.

8. El tratamiento del carcinoma broncogénico es la neumonectomía. La irradiación es paliativa solamente.

9. En una serie de 361 neumonectomías totales a causa de carcinoma broncogénico primario, el 51.5 por ciento vive y el 44.4 por ciento ha muerto. De los 22 pacientes vivos, uno ha vivido ocho años desde la operación, uno seis años, 2 cinco años, 2 cuatro años, 3 tres años, uno dos años, 6 un año y 6 menos de un año. Desde 1941 se ha ejecutado la neumonectomía total en 30 casos con 2 muertes en el hospital (6.6 por ciento).

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## Discussion

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Mr. Chairman and Members of the Society: As usual, Dr. Ochsner has presented a most interesting discussion which has obviously been the result of a very careful review of the literature on this subject and a consideration not only from the pathological, but the surgical point of view. I can readily subscribe to all that Dr. Ochsner has said.

Within a month of the date in 1933 when Evarts Graham performed the first total pneumonectomy for carcinoma of the lung, I also successfully removed a lung for sarcoma and, interestingly enough, my series of cases and Graham's since 1933 have been

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practically parallel. I am very pleased that Dr. Ochsner's series also corroborates in every way my experience and that of Dr. Graham.

Undoubtedly, the incidence of primary pulmonary malignancy is increasing both relatively and absolutely. The increased diagnostic acumen of the average clinician today and the fact that there is something from the surgical therapeutic standpoint to offer the patient does not vitiate the fact that the incidence of primary bronchiogenic carcinoma is greater now than in the past.

In my series there have been 91 cases in which total pneumonectomy has been performed. Of these 67 were for carcinoma, 2 for sarcoma, 9 for pulmonary tuberculosis, 5 for nontuberculous abscess, 2 for nontuberculous bronchiectasis, 1 for actinomycosis, 1 for congenital cyst of the lung, 1 for tuberculosis and carcinoma combined, and 3 for tuberculosis and bronchiectasis. The cases of carcinoma of the lung that have been operated on in the Johns Hopkins Hospital now total 175; 108 cases, or 62 per cent, were inoperable and 67, or 38 per cent, operable. It is interesting to note that in this group of cases in which 91 total pneumonectomies have been performed, there were 22 hospital deaths, making a mortality of 24 per cent. Of the carcinomas there were 15 deaths in 67 cases, giving a mortality of 22.6 per cent. In the last 25 cases however, there were three deaths, a mortality of 12 per cent. Interestingly enough, in Graham's series the over-all mortality was 30 per cent and for the last 25 cases was also, as in my series, 12 per cent. This, of course, is a most reasonable mortality for such a major procedure, but I am convinced that in the next five years the mortality for operable cases of carcinoma of the lung will be much lower and certainly should run between 5 and 10 per cent. It is to be remembered that the present series of Dr. Ochsner's, Graham's and mine have included cases that were operated on during the development of the operative technique, the technique of anesthesia, and oftentimes in the past borderline cases from the standpoint of operability were attempted. Although I do not believe, and I am certain Dr. Ochsner will subscribe to this attitude, that one should only operate upon the easy cases and turn down the ones that would seem to be difficult, yet at the same time I think it is wise to exercise the keenest judgment in selecting those cases which would appear to offer the best chance of a cure.

Total pneumonectomy is now an operation that has been done by many surgeons and will be increasingly reported upon. In the next few months I intend to publish a detailed account of the cases on which I have operated in the Johns Hopkins Hospital for it is my opinion that it will be most beneficial to have on record the results in regard not only to the immediate operative results

but to the later as well. In our series, it is interesting to note that of the operable cases, 24 or 35 per cent are still living. In 1 the length of time is 10 years and 10 months, having been operated upon in 1933; in 1, the length of time is 9 years; in 4, 7 years; in 2, 4 years; in 3, 3 years; in 2, 2 years; in 3, 1 year; and in 19, from 6 months to 1 year. Of the cases discharged from the hospital that have died subsequently, one lived 5 years; 1, 3 years; 5, 2 years; 10, 1 year; and 12 between 6 months and one year.

I think this record for carcinoma of the lung will compare more than favorably with a tabulation of the results of the surgical treatment of carcinoma of the thyroid, breast, stomach, colon or rectum. In just a decade the treatment of carcinoma of the lung has been advanced from that of a perfectly hopeless condition to one which offers a great boon to the patient suffering from this affection and it would seem to me most desirable to disseminate this knowledge as widely as possible, so that departure from the normal in the patient's respiratory mechanism in any way should create enough interest on the part of the attending physician to rule out the possibility of bronchiogenic growth.

Again, I want to congratulate Dr. Ochsner and his associates on their most interesting and informative study of this subject.

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## Pitfalls in the Diagnosis of Atypical Pneumonia\*\*

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The atypical pneumonias, and especially primary atypical pneumonia, cause undetermined, have been recognized with increasing frequency in recent years. They were very common in the winter of 1942-43, less so in 1943-44. These pneumonias are not new. There is abundant evidence that they have occurred many times in the past. The pathological process has been found in the lungs of soldiers dying during the Civil War, as well as in World War I. The atypical pneumonias are known to occur in the course of certain well known specific infectious diseases, particularly those due to virus and rickettsial etiology. In primary atypical pneumonia, cause undetermined, the pulmonary pathology is considered to be an incident to or an accident occurring with a systemic infection. The etiology of this is, as yet, unknown but it is generally believed to be of virus origin. We have seen many patients who ran the usual course of primary atypical pneumonia with all of the symptoms, at a time when this condition was prevalent, but who had no evidence of a lesion in the lung on physical examination or on x-ray, although films of the chest were made at frequent intervals during the course of the disease. This has been the experience of others and for this reason we feel that the lung lesion does not necessarily occur in all cases.

In recent years this condition has received considerable attention in the literature and the various aspects of the disease have been thoroughly discussed. The clinical manifestations are well known and the x-ray appearance of the chest has been described many times. In the average case, after consideration of the patient's history, the physical findings in the chest or the lack of them, the clinical picture, the laboratory data and the x-ray of the chest, the diagnosis is usually clear. However, as is true in many other diseases, this is not always the case. We have on many occasions had the opportunity of confusing this disease with other common diseases of the lungs. With the increasing incidence of this condition, the necessity of differentiating it from other pulmonary diseases has assumed increasing importance.

The severity of individual cases of primary atypical pneumonia varies within wide range. We have seen many cases discovered in

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the course of routine x-ray examination. These have been soldiers with minimal symptoms not sufficiently severe to cause them to report to sick call. They have usually run a mild course and have been well within a few days. On the other hand, we have seen many cases who were desperately ill and in whom the outcome was in doubt for several days. From all accounts the mortality is fortunately very low. In our experience it has been less than 1 per cent. We have seen four cases who died with primary atypical pneumonia but in none of them could this be considered the sole cause of death. One of these was a young soldier whose past health had been good but upon admission to the hospital he was complaining of pain in the rectum in addition to the usual symptoms of atypical pneumonia. He was found to have thrombosed hemorrhoids and later developed a thrombophlebitis in the leg. His pneumonia was rather severe but he seemed to be recovering from this when he developed chest pain, his cough increased and his sputum became blood-streaked. He died a few days later. At autopsy he was found to have two pulmonary infarcts plus the resolving atypical pneumonia. We were of the impression that he would have recovered had he not developed the complications. The second death was in an elderly man who had had an asthmatic bronchitis, pulmonary fibrosis and emphysema of long standing. The third was in a young female who had a symptomatic congenital heart lesion and the fourth was an elderly female who had hypertension and arteriosclerosis and who had, on one previous occasion, myocardial failure. The last three patients were poor subjects to withstand the additional strain of any acute infection and in each case this was sufficient to cause death. We are in agreement with others that primary atypical pneumonia in the absence of other diseases and in otherwise healthy individuals is a relatively benign disease so far as mortality is concerned.

In spite of the low mortality from the disease it is not to be taken lightly either from the point of view of the individual patient or from that of the population as a whole. Many patients are very uncomfortable and even seriously ill for many days, requiring close attention and care. Also, in many cases the convalescence is prolonged. During the season of 1942-43 the disease assumed almost epidemic proportions in some areas and the loss of manpower was tremendous. Many observers feel that the disease is highly contagious and there is much evidence to support this, especially at stations where large numbers of newly-inducted soldiers are collected. Here it has often been observed that the highest rate of incidence occurs during the first few weeks after new inductees arrive at the station. Our opportunity to make

observations of this nature has been limited because of the source of the bulk of our patients. However, it is noteworthy that we have had an exceptionally low case rate in the personnel in the hospital. In fact, we have had but one case of primary atypical pneumonia in all of the medical officers, nurses and enlisted personnel working on the acute respiratory wards.

It is not intended to review here the details of the various clinical manifestations of the disease nor to present statistical data on our series of cases. The following brief history will serve to illustrate a typical case of moderate severity:

A 35 year old officer was admitted to the hospital five days after the onset of general malaise, fatigue, generalized aching, headache, chilliness and cough. The symptoms had begun rather insidiously and had increased gradually in severity. He had felt feverish on the day before admission and when admitted to the hospital he had a temperature of 103° F. At the outset the cough was dry and hacking in character but later became productive of sputum which was yellowish to greenish in color and was rather heavy. The cough was troublesome and was not easily controlled with the usual sedatives. The headache was noted particularly behind the eyes. There had been some soreness in the chest on both sides which was aggravated by coughing but there was no definite pleuritic pain. There was definite prostration and sweating but no cyanosis and only slight dyspnea. The findings in the chest were scant. Small moist rales were noted over the base of the right lung posteriorly without evidence of consolidation. X-rays of the chest revealed mottled densities in the right lower lobe, consistent with pneumonia. The total and differential white blood counts were within normal range and examination of the sputum on repeated occasions failed to reveal any specific organisms. He was treated symptomatically and after a few uncomfortable days the temperature subsided gradually and he began to improve subjectively. At this point there were numerous rales over the lung and the x-rays showed beginning resolution of the pneumonic process. From this point on his course was one of improvement and he was discharged to sick leave 18 days after admission. Within another two weeks he was apparently well and was returned to duty.

The above history in many respects is in striking contrast with that of a usual case of pneumococcic pneumonia. There is notable absence of the abrupt onset, sharp pleuritic pain, characteristic sputum, leukocytosis and specific organisms in the sputum commonly seen in the latter condition. This is indeed true in the majority of cases and when the course is typical there is little difficulty in differentiating the two. As is well known, however, in many cases of pneumococcic pneumonia some of the characteristic symptoms may be absent and not infrequently it is impossible to find specific organisms in the sputum. Also, we have seen many cases of atypical pneumonia having a rather abrupt onset and while a relatively normal blood count is the rule, a slight to moderate leukocytosis is not rare. It has been stated that

the x-ray appearance of primary atypical pneumonia is characteristic and distinctive. This has not been our experience. As often as not we have been unable to differentiate the two conditions on the basis of the x-ray alone. In fact, in not a few cases we have been unable to accomplish this even after consideration of all of the available information and have had to await developments to make a decision. This has sometimes been facilitated by the response to therapy, whether specific or otherwise. It may be argued that the differentiation between pneumococcic and atypical pneumonia is of academic interest only and there might be some grounds for this argument. Some have advocated treating all pneumonias with sulfonamides regardless of the type. It is now well established that primary atypical pneumonia does not respond to sulfonamide therapy. In the more severe cases and especially where secondary bacterial infection is suspected, there is some justification for the use of the sulfonamides but their routine use in atypical pneumonia is to be condemned. We are all familiar with the fact that the sulfonamides are not harmless drugs. Numerous observers have reported toxic reactions from sulfonamides, some of which have been severe and a few have been fatal. The administration of a potentially harmful drug in a condition in which it is not expected to be beneficial is taking an unnecessary risk, however small it may be.

It is common knowledge that often it is difficult to differentiate tuberculosis from other diseases of the lungs. Now that primary atypical pneumonia has become so common, another disease has been added to the list of conditions to be considered in the differential diagnosis of tuberculosis. In practically all reported series of cases of primary atypical pneumonia the site of the lesion or lesions has been predominantly in the lower lobes. This is particularly fortunate in consideration of the differential diagnosis between this condition and tuberculosis since in the latter condition the site of the lesion is usually in the upper lung field. Further, the onset of symptoms in the two diseases is usually quite different and certainly the course is not similar; however, it not infrequently happens that difficulty is experienced in differentiating the two conditions when the patient is seen for the first time and for a short time thereafter, or until subsequent events help establish the diagnosis. The irregular mottled densities seen in the x-ray in atypical pneumonia, often accompanied by lobular atelectasis, simulate very closely the x-ray appearance of many cases of tuberculosis and when they occur in the upper lobe it might well be impossible to distinguish between the two on the single film. Of course, the failure to find tubercle bacilli in the sputum on repeated examinations and the rapid resolution



of the lesion in due time, will point to the diagnosis of atypical pneumonia rather than tuberculosis. The importance of withholding final judgment pending a brief period of observation in questionable cases before beginning any active treatment for tuberculosis cannot be over-emphasized. It would indeed be unfortunate to institute pneumothorax with the anticipation of continuing it for months or years in a case of uncomplicated primary atypical pneumonia. Early in 1942, when atypical pneumonia began to occur so commonly, mistakes in diagnosis were often encountered. We have seen a number of cases transferred to the hospital with the diagnosis of tuberculosis, only to see the lesion in the lung clear completely in a short time. Later, when atypical pneumonia became prevalent, the reverse of this condition was encountered on a few occasions. Another rather important fact contributing to the difficulty is the fact that in a few cases of atypical pneumonia the shadows on the x-ray persist for several weeks or even a few months. In such cases when the lesion is in the upper lobe the problem of differential diagnosis is anything but simple. We have had a few such problems.

In numerous articles the x-ray appearance of the lungs in atypical pneumonia has been described and various descriptive terms have been employed, the more common being homogenous, flocculent, hazy, mottled, et cetera. These and other similar terms refer to the more commonly seen x-ray picture. Occasionally one finds reference to a disseminated, miliary-like lesion. In such cases the lesion may involve a part or all of one or both lungs. Early in the course of such cases the miliary-like densities are small and strikingly resemble the picture of miliary tuberculosis. Later the individual densities may become larger and even confluent and look very much like metastatic carcinomatosis or not unlike some of the fungus diseases. Interestingly enough among these cases have been some of our sicker patients; however, no such patient has died.

It seems unlikely that this condition might be confused with primary tumor of the lung but this has occurred in our experience. Occasionally the x-ray picture is that of sharply localized area of atelectasis. Should this disappear within a reasonable period of time there would be little possibility to entertain the thought of its being due to pulmonary tumor; but, should it persist for weeks or months, as we have seen in one case, it might well be mistaken for malignancy of the lung. Likewise, we have seen the reverse of this in one instance. This latter patient, upon admission to the hospital, was thought to have atypical pneumonia. Within the usual period of time his acute symptoms subsided but he continued to have some cough and expectoration which at times

was blood streaked. The unilateral basal lesion seen on x-ray on admission did not resolve in the expected time. On bronchoscopic examination he was found to have a bronchogenic carcinoma.

There is small wonder that primary atypical pneumonia might be confused with bronchiectasis when one considers the location of the lesions in the majority of cases of atypical pneumonia, and recalls the frequently recurring episodes of acute pneumonitis so commonly seen in bronchiectasis. In fact, there are ample references to the possibility of atypical pneumonia causing bronchiectasis, and this is understandable. The basic requisites for the production of bronchiectasis are found in atypical pneumonia; that is, infection in the bronchial wall, bronchial obstruction, atelectasis, et cetera. Fortunately, in most cases the condition does not last long enough and the pathological changes are reversible as resolution progresses. We have not yet been able to demonstrate the production of bronchiectasis by atypical pneumonia; however, this might well have occurred and escaped our attention. It has been very interesting to observe the cases of pseudobronchiectasis reported by Blades and Dugan.<sup>1</sup> All of these patients had what was thought to be atypical pneumonia, and following recovery from the acute episode, they continued to have some cough with expectoration. Bronchograms were made within a relatively short time after recovery from the acute symptoms and in such instances well defined bronchiectatic dilatations were demonstrated. The bronchograms were repeated a few months later and to our surprise, the bronchiectasis had disappeared. The details of these cases have been recorded by the above authors and the implications are obvious.

#### SUMMARY

We have had the impression that primary atypical pneumonia has been considered a disease easy to diagnose and simple to handle. This has been due, at least in part, to the very low mortality and the lack of effective specific therapy. It is hoped that this will serve to emphasize the following points: 1. Frequently it is very difficult, if not impossible, to differentiate primary atypical pneumonia from pneumococcic pneumonia. This should be done, if possible, in order that specific therapy be administered if indicated and withheld if not indicated. 2. Primary atypical pneumonia might often simulate pulmonary tuberculosis in its various manifestations and on rare occasion might be confused with pulmonary tumor. 3. It might well be impossible to differentiate primary atypical pneumonia from bronchiectasis during the acute stage. In a case of suspected bronchiectasis following primary atypical pneumonia, it is well to allow a period of observation

and repeat the bronchogram before deciding upon surgical treatment of the bronchiectasis. The importance of differentiating primary atypical pneumonia from this and the conditions mentioned above is self-evident.

### RESUMEN

Nosotros hemos tenido la impresión de que la neumonía atípica primaria es una enfermedad que se ha juzgado ser fácil de diagnosticar y fácil de tratar. Esto se ha debido, por lo menos en parte, a la mortalidad tan baja y a la falta de un tratamiento específico eficaz. Se desea hacer hincapié sobre los puntos siguientes: 1. Con frecuencia es muy difícil, o aún imposible, diferenciar entre neumonía atípica primaria y neumonía neumocócica. Debe establecerse esta diferencia siempre que sea posible a fin de que se aplique una terapia específica cuando esté indicada, y para desecharla cuando no lo esté. 2. La neumonía primaria atípica frecuentemente puede simular las diferentes manifestaciones de la tuberculosis pulmonar y, en raras ocasiones, puede ser confundida con el neoplasma pulmonar. 3. A veces es imposible establecer diferencia entre neumonía atípica primaria y bronquiectasia durante el período activo. En los casos en que se sospecha bronquiectasia siguiente a neumonía atípica primaria, es conveniente establecer un período de observación y repetir el broncograma antes de que se decida aplicar el tratamiento quirúrgico de la bronquiectasia. Es evidente la importancia de diferenciar la neumonía atípica primaria de los otros estados mencionados.

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- 1 Blades, Brian, and Dugan, David J.: "Pseudobronchiectasis," *The Journal of Thoracic Surgery*, 13: 3-11, (Jan.) 1944.

### Discussion

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During the last several years numerous articles have been published on atypical pneumonia. Most of these reports have emanated from army sources, where opportunities were afforded to observe a relatively large number of cases of this disease. The symptoms, physical signs, laboratory analyses, and x-ray appearance of the chest lesions have been discussed in numerous papers, and these subjects do not need to be further emphasized.

It now seems to be recognized that atypical pneumonia is a rather benign disease of unknown cause, which terminates favorably, usually in less than three weeks, without any specific treatment. It remained, however, for Dr. Nalls to call attention to the



fact that a single x-ray picture of this disease cannot be differentiated from pulmonary tuberculosis, particularly if the lesions are in an upper lobe of the lungs.

A few weeks ago a patient who had been rejected by the army with a diagnosis of pulmonary tuberculosis was sent to Hazelwood Sanatorium for examination. The x-ray report made by the army described infiltration in the left upper lobe, occupying two interspaces, and diagnosed as re-infection type of pulmonary tuberculosis. I saw this man about a month after this examination, and our x-ray showed no abnormal shadows. The history of this case was compatible with atypical pneumonia, and the clearing of the lesion, as shown by x-ray, certainly established this as the diagnosis.

Of course, it is not known how frequently a situation like this occurs, but it has made me wonder why there cannot be some provision for men such as this to be called back for re-examination by the army, particularly as I know that many of these men rejected because of pulmonary lesions have been very anxious to get into the service. It is realized, of course, that army examiners do not have the time to follow up the cases rejected, and this, of course, necessarily falls on private physicians and tuberculosis services. Dr. Howard Marcy reported recently in the *Diseases of the Chest* that 10 per cent of the rejectees for tuberculosis, when followed up, were found to have nothing the matter with their chests. From my own experience I suspect that a certain number of these cases may have been those of atypical pneumonia which resembled tuberculosis by x-ray.

I know that many of us are in the habit of reading hundreds of x-ray films sent to us by private physicians for diagnosis. Years ago, I do not hesitate to say, that lesions of the type under discussion were diagnosed as tuberculosis without any twinge of conscience. I am quite certain that the patients in a number of such instances were kept in bed needlessly for months. I wish to emphasize, therefore, the importance of Dr. Nalls' presentation. Let me add the plea that a positive differential diagnosis be not made from one film alone, when the shadows might represent either atypical pneumonia or pulmonary tuberculosis. I feel that Dr. Nalls has made a very timely and very excellent discussion of this subject.

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## Mechanical Paralysis of the Left Hemidiaphragm Complicating Collapse Therapy in Pulmonary Tuberculosis\*

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*Worcester, Massachusetts*

It has long been recognized that gastrointestinal disorders may follow therapeutic paralysis of the diaphragm. They have been observed fairly commonly after severance or crushing of the left phrenic nerve, and only rarely following similar procedures on the right. Many a patient, who has had a period of temporary diaphragmatic paralysis on the left side has had a coexisting period of nausea and anorexia; and the consequent malnutrition has often far outweighed any conceivable benefit from the procedure.

A satisfactory explanation of these observations, clearly, must establish a relationship between the diaphragm and the digestive tract beneath it. The conception of the diaphragm as an organ of respiration is entirely inadequate. There are available several studies which have shown that respiratory function undergoes very little embarrassment following diaphragmatic paralysis, and that a considerable part of its function consists of its relation to the organs beneath it. In 1927 Lemon<sup>3</sup> showed experimentally in dogs that bilateral diaphragmatic paralysis was followed by adequate compensatory function on the part of the intercostal muscles, and no appreciable loss of respiratory function was noted when the animals were subjected to strenuous exercise. In humans following unilateral paralysis of the diaphragm only slight temporary lowering of the vital capacity is noted.<sup>5</sup> Studies of comparative anatomy made by Lemon<sup>4</sup> lead to the conclusion that a very important function of the diaphragm is to aid in the maintenance of a high intraperitoneal pressure, and to transmit this pressure to the abdominal organs wherever and whenever necessary, thereby contributing to the propulsion of their contents. Only a well functioning muscle can perform this work in the face of a negative intrathoracic pressure above.

Fluoroscopic studies made by Joannides and Litschgi<sup>2</sup> have shown that the pressure transmitted to the fundus of the stomach by the

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descending left hemidiaphragm above it is of considerable importance, in view of the fact that gastric peristalsis is not initiated in this area but in the incisura angularis below. Therefore, a functioning left hemidiaphragm is necessary for satisfactory propulsion of the contents of this part of the stomach. The altered position of the pylorus by paralysis of the right hemidiaphragm was shown to have pronounced effects on this part of the stomach.<sup>1</sup> However, this disturbance is not so marked as that resulting from left hemidiaphragmatic paralysis, and it is rarely of clinical importance.

For some time we have been aware of the fact that digestive disturbances have followed not only paralysis of the left phrenic nerve but also left sided pneumothorax. In an effort to understand this phenomenon, fluoroscopic studies have been made for several years of patients undergoing therapeutic pneumothorax. It was noted that in the vast majority of cases undergoing this treatment there was a measurable decrease in the excursion of the diaphragm on both sides following each treatment, more marked on the collapsed side than on the uncollapsed side. This fact is illustrated in Figure 1 where a drawing to scale transferred from a fluoroscopic screen shows diaphragmatic excursions before and after the administration of pneumothorax to the right side. A reduction in mobility

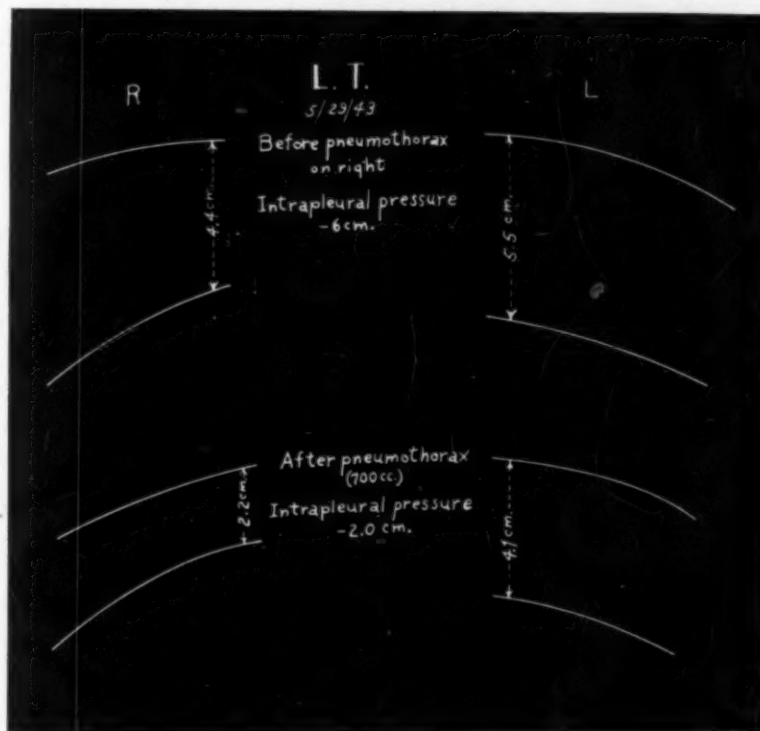


Fig. 1



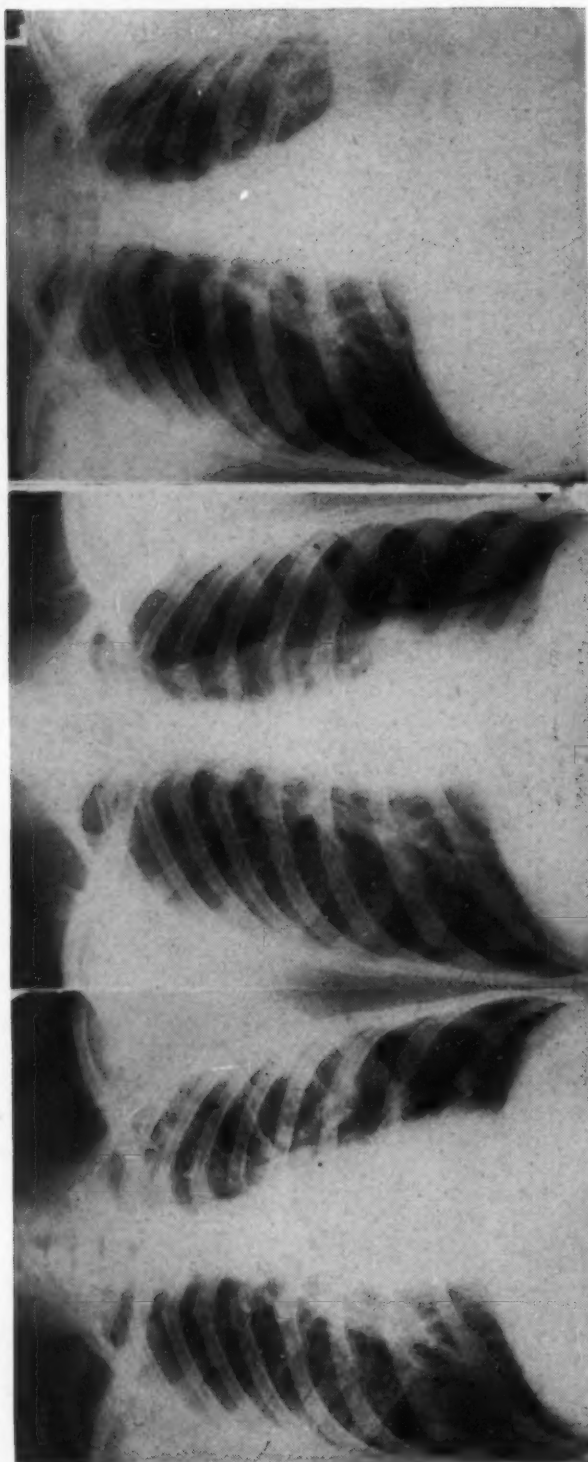


Fig. 4

Fig. 3

Fig. 2

of the diaphragm is seen on both sides, greater on the treated side.

In all such cases the phrenic nerve is intact, and the diaphragmatic muscle has not been altered. The only change that has taken place is a rise in intrathoracic pressure. Therefore it may be concluded that the mobility of the diaphragm depends not only upon the contractile power of its muscle fibres and an intact phrenic nerve but also upon the level of intrathoracic pressure. The position of the diaphragm at expiration shifts away from the source of increased pressure. Consequently it is lowered. The position of the diaphragm at inspiration is further lowered, but, since its mobility is limited by its attachments, its maximum descent with inspiration cannot compensate for the initially lowered level at the expiratory position. The net result is a diminished excursion of the diaphragm.

Having established the fact that pneumothorax can bring about diminished mobility of the diaphragm, it is clear that gastrointestinal disorders, similar to those met with in cases of phrenic paralysis, are to be expected. Patients with pneumothorax on the left side are found frequently to suffer from marked anorexia. These patients approach their meals eagerly, but are satisfied after a few mouthfuls. The explanation here, as above, lies in the relation between the left hemidiaphragm and the fundus of the stomach below. There is, furthermore, an explanation found in the work of Wilson and Irving<sup>6</sup> who made intragastric measurements following the ingestion of large volumes of liquid. They found that the normal pressure in the fundus, -2 to -4 cm. of water, was unchanged after the rapid ingestion of a liter of water except for a slight transient rise. This remarkable adaptability of the fundus to its increasing contents can only be due to a very adjustable abdominal wall, more especially the left hemidiaphragm which rests upon it. A depressed, immobile diaphragm, by its relationship to the fundus beneath it, can only serve to limit markedly the adaptability of the stomach to increasing contents, thereby bringing about the anorexia which is the chief clinical feature of this syndrome.

Although noted often in the sanatorium, this disorder does not lead to serious proportions there because the lowered nutritional level resulting therefrom may not be out of proportion to the lowered caloric demands resulting from the markedly restricted activity in the institution. In the course of rehabilitation, however, a patient who has previously gained weight may find that he cannot maintain a nutritional level commensurate with increasing metabolic demands. Two cases illustrating this syndrome as it complicates the course of rehabilitation, and a third showing its influence in the treatment of an active case are described below.

*Case I*—J. W. was admitted to Middlesex County Sanatorium on 6/18/41 after routine x-ray of the chest upon induction into the army revealed a

moderately advanced lesion in the left lung (Fig. 2). Sputum was found positive, and pneumothorax was induced promptly on this side. His sputum was persistently negative thereafter. Eleven months after the onset of treatment he was discharged to the Rutland Training Center for rehabilitation. X-ray of his chest at that time is shown in Figure 3. His weight was 159 pounds; temperature and pulse normal. He received refills on his left at biweekly intervals. He resided at the institution a total of sixteen months, during the first two of which, while his activity totaled less than four hours daily, he gained five pounds. As attempts were made later to increase his activity to five and six hours daily, it was noted that his weight fluctuated markedly, occasionally falling to a level lower than his admission weight. His course during the last forty-eight weeks of

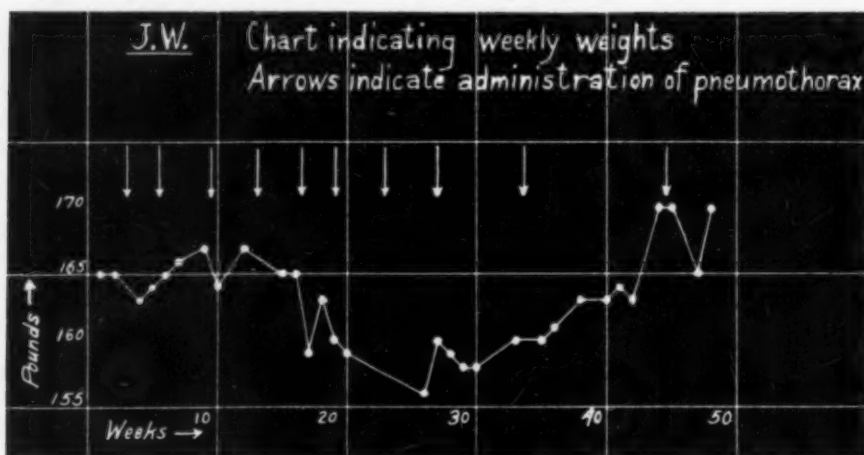


Chart I

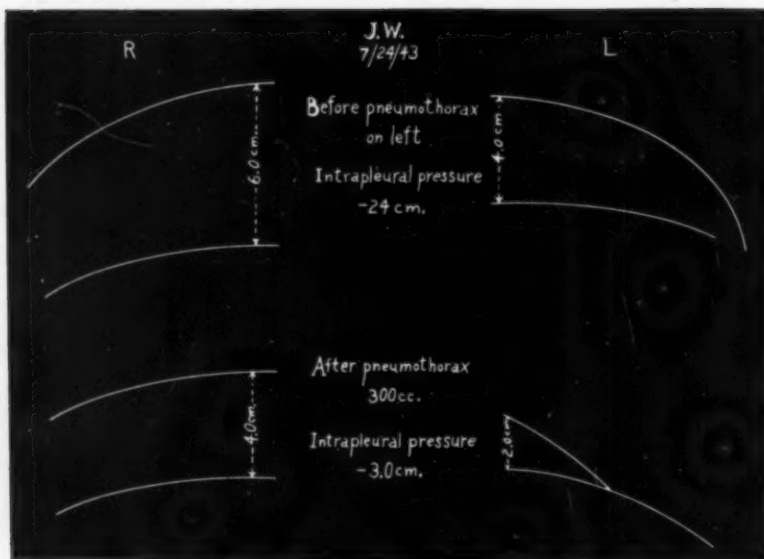


Fig. 5



residence, during which time his activity was maintained at five to six hours, and for a short time eight hours, is indicated in Chart I.

During this time scanty sputum was persistently negative on culture; blood sedimentation rate and blood smears were normal; white blood count was 9,000 to 12,000. Investigation as to the cause of the marked fluctuation in weight led to the information volunteered by the patient that for one or two weeks after each refill he suffered marked anorexia. Examination of Chart I, upon which the administration of pneumothorax is indicated by an arrow, substantiates the report obtained from the patient; and, if a long enough time was allowed to elapse before the next refill, a marked increase in appetite and weight followed. To understand this phenomenon the diaphragmatic function of this patient was studied fluoroscopically. The findings obtained are shown in Figure 5. Here the expected reduction in excursion on both sides following pneumothorax is found. On the left side, the side of pneumothorax, the excursion is four centimeters. Following introduction of 300 cc. of air, the mobility of the left hemidiaphragm is limited to the medial half. It is, therefore, essentially immobile except for the portion nearest the central tendon, where the apparent mobility may be secondary to the rise and fall of the mediastinal structures in respiration.

Attempts were made, as exercise and nutritional requirements were increased, to prolong the interval between refills to three and four weeks. However, this period of time did not appear adequate. It was found, however, that pneumothorax could be maintained while providing a proper nutritional level by giving refills at six to eight week intervals. The patient was discharged working eight hours daily, weighing 170 pounds—eleven pounds above his admission weight—with the advice that his future treatment be guided by the same conservative handling of his pneumothorax. His film at the time of discharge (Fig. 4) shows a marginal pneumothorax on the left, a small quantity of fluid in the left pleural cavity and a rise of the left hemidiaphragm above the level in the previous film by one half interspace.

*Case II*—M. B. was admitted to Middlesex County Sanatorium at the age of 21 because of the roentgenological diagnosis of pulmonary tuberculosis (Fig. 6) made following the discovery of the disease in her father. Sputum was subsequently found positive. Pneumothorax was induced on the left and maintained to the time of discharge to the Rutland Training Center, twelve months later.

On admission to the latter institution an x-ray of her chest showed the features seen in Figure 7. Her weight was 108 pounds. Her appetite was poor, and there was gradual though slight weight loss during the first few months of her residence. Her strength was poor, and it was found impossible to increase her activity beyond two hours daily. During her entire residence there was no sputum available for examination. Gastric contents were found negative on guinea pig inoculation. Her blood, examined at two to three month intervals, showed no significant change with respect to sedimentation rate, total white cells or differential count. Therefore it was felt that the chief factor interfering with this patient's progress was not activity of the lesion seen on the right side in the admission film (Fig. 7) but rather interference with her nutrition resulting from mechanical paralysis of the left hemidiaphragm. Study of the diaphragmatic function of this patient bore out the above impression by facts observed in Figure 9. Here the mobility of the diaphragm, which is

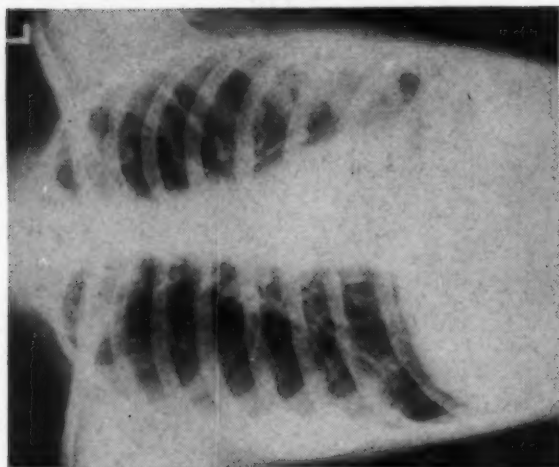


Fig. 8

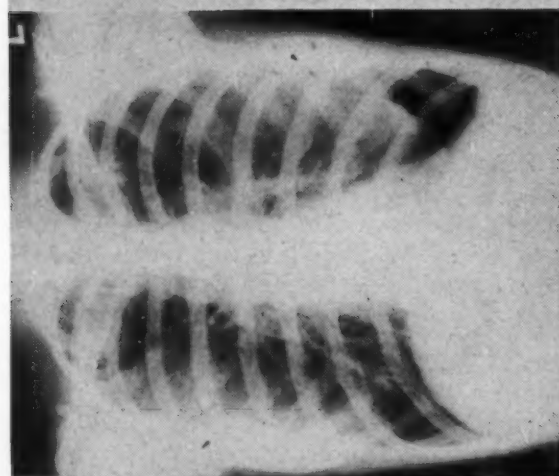


Fig. 7

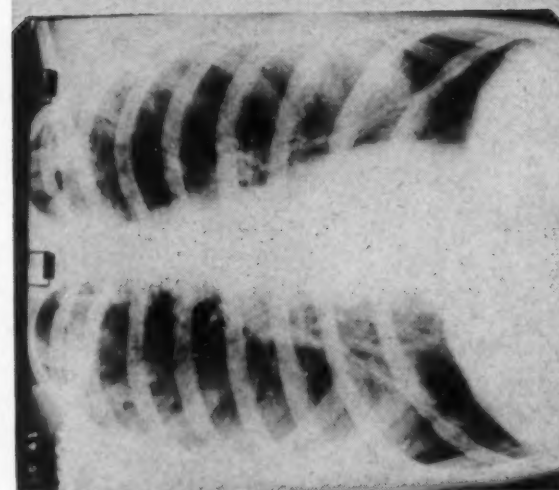


Fig. 6

greatly limited, is found further reduced by the introduction of 200 cc. of air into the left pleural cavity. As in the case described above, after pneumothorax only the medial portion of the left hemidiaphragm is found to move at all. The remainder is immobile.

A study of the weight as influenced by pneumothorax in this case is indicated in Chart II. This chart shows the course of events during seventy-nine weeks after admission. During the first sixty-four weeks pneumothorax was administered. During this entire time the patient's poor strength made it impossible to increase her activity beyond two to three hours daily. It was clear that after one year's residence this girl was no nearer her goal of rehabilitation than she was on admission. Attempts were therefore made to prolong the interval between refills. Biweekly instead of weekly injections led to no appreciable change. Refills at three week intervals were not possible because of the likelihood of complete loss of the pneumothorax under this program. Finally pneumothorax was abandoned completely. The prompt increase in weight, indicated by the weight chart, was followed by an increase in strength and increase in activity to five hours daily within two months after abandoning pneumothorax. A film showing the reexpanded left lung is seen in Figure 8.

*Case III*—J. P. discovered, at the age of 38 following a small hemoptysis, that he had pulmonary tuberculosis. X-ray of his chest at this time is seen in Figure 10. Pneumothorax was instituted shortly after on the left at Belmont Hospital, Worcester, Massachusetts. Immediately there followed marked anorexia, progressive weakness and loss of weight. Pneumothorax was begun shortly after on the right because of roentgenological evidence of active disease on this side. One and a half years after the onset of treatment the patient weighed 106 pounds; height was 66 $\frac{1}{4}$ "; temperature was 98.2° F.; pulse 110; vital capacity was 1200 cc. He showed on x-ray the features seen in Figure 11. A large cavity about the size of a fist is seen occupying most of the area above the second rib anteriorly

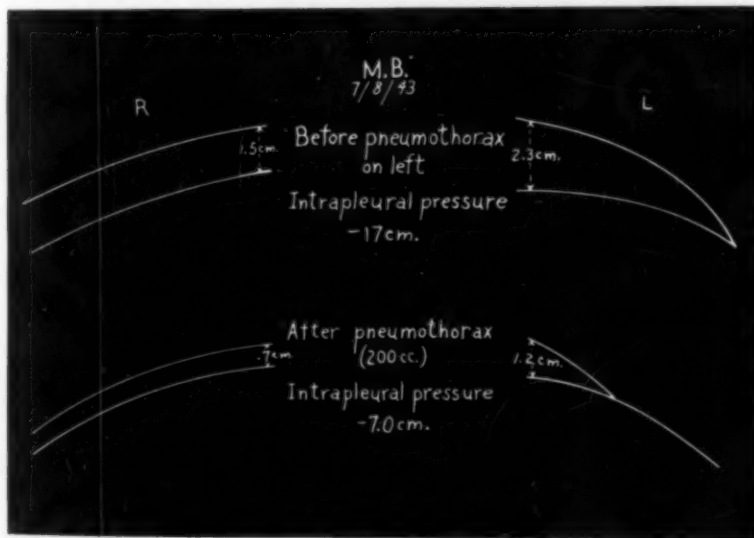


Fig. 9



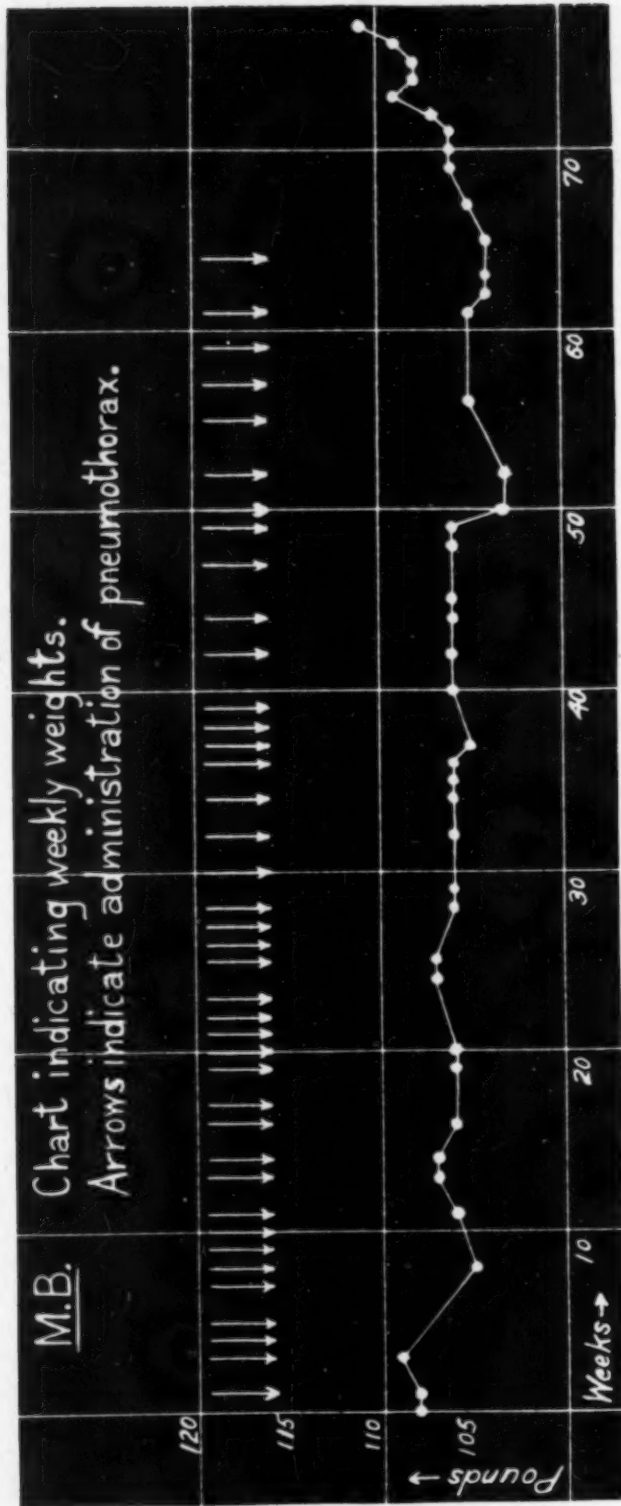


Chart II

on the left in lung tissue broadly adherent to the chest wall. Pneumothorax on this side affects chiefly the lower two-thirds of the lung. The mediastinal structures are markedly deviated to the opposite side. On the right a small marginal pneumothorax affecting only part of the upper lobe is seen. This side is dense because of the presence of fluid in the pleural cavity here. Fluoroscopy showed diminished excursion of the diaphragm on the right, total absence of any visible excursion on the left. Blood showed white cells 8000, differential count normal, sedimentation rate 1.4 (Rourke method). Sputum was positive.

It was felt that the immediate problem of this man was one of nutrition; that the lack of mobility of the left hemidiaphragm warranted the assumption that his malnutrition was chiefly due to left hemidiaphragmatic paralysis. Therefore, pneumothorax was discontinued. Within two months fluoroscopy showed gradual resumption of mobility of the left hemidiaphragm. There were simultaneous increase in appetite, weight and strength. At the same time, also, there was gradual reduction in cough and expectoration while x-ray studies showed progressive shrinkage in the size of the cavity in the left apex. An x-ray taken eighteen months after abandoning pneumothorax on the left is seen in Figure 12. The measured excursion of the left hemidiaphragm at this time was 3.0 cm. Appetite and strength were good (patient worked eight to ten hours daily against instructions). His weight was 131 pounds; pulse rate was 80 to 90; vital capacity was 2100 cc. The striking improvement in the roentgenological features and the clinical aspects of this man's status appears to have followed closely the resumption of mobility of his left hemidiaphragm with consequent improved nutrition.

#### SUMMARY

A syndrome is described, the striking features of which are anorexia, and loss of weight and strength, wholly unrelated to the presence of active disease but observed occasionally in the course of left sided pneumothorax. A study of three cases shows that these symptoms may be of sufficient magnitude to limit the value of this treatment in occasional active cases. More especially in the course of rehabilitation, during the period in which nutritional requirements must keep pace with increasing metabolic demands, it may be necessary to reduce the frequency of refills, decrease the degree of collapse, and occasionally to abandon pneumothorax early to permit the patient to undergo continued progress. Evidence from the literature is cited to show the importance of a functioning left hemidiaphragm both in the normal propulsion of the contents of the fundus of the stomach beneath it and in maintaining proper adaptability to its increasing contents in the course of a meal. Fluoroscopic studies are shown, (1) to demonstrate the universal reduction in the excursion of the diaphragm by a rise in intrathoracic pressure resulting from the administration of pneumothorax and (2) to show that the production of the train of symptoms described above is in proportion to the reduced mobility of the diaphragm resulting from the treatment. Since this reduced mo-

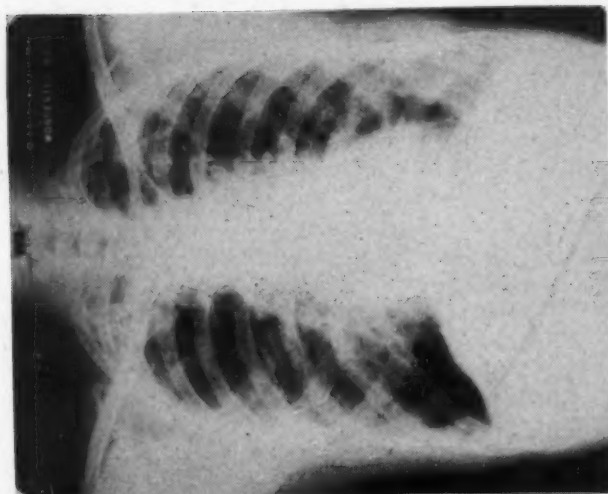


Fig. 12

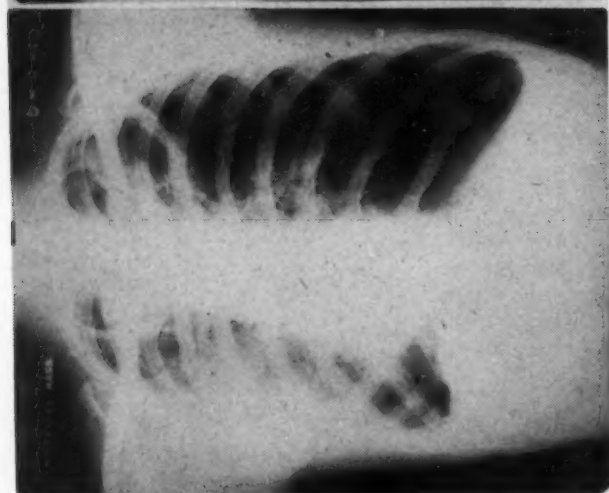


Fig. 11

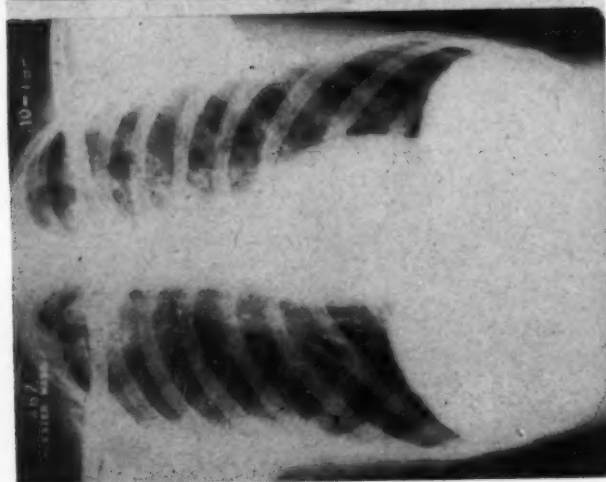


Fig. 10



bility of the left hemidiaphragm is in effect a mechanical paralysis produced by a rise in intrathoracic pressure while both the muscle and phrenic nerve are intact, it is considered fitting to designate this syndrome in the following terms: mechanical paralysis of the left hemidiaphragm.

390 Main Street.

#### RESUMEN

Se discute un síndrome, cuyos rasgos llamativos son anorexia y pérdida de peso y de fuerzas, que no tiene relación alguna con la presencia de enfermedad activa, sino que aparece ocasionalmente durante el curso del neumotórax del lado izquierdo. La investigación de tres casos revela que estos síntomas pueden ser lo suficientemente importantes para restringir el valor de este tratamiento en ciertos casos activos. Especialmente en el curso de la rehabilitación, en ese período durante el cual los requisitos alimenticios deben andar al mismo paso que las crecientes demandas metabólicas, puede llegar a ser necesario reducir la frecuencia de los rellenos, disminuir el grado del colapso y, en ocasiones, abandonar el neumotórax prematuramente para que el paciente pueda continuar progresando. Se cita pruebas tomadas de la literatura para demostrar la importancia del hemidiafragma izquierdo en función, tanto en la propulsión normal del contenido del fondo del estómago subyacente, como en mantener su exacta adaptabilidad al creciente contenido gástrico durante el curso de una comida. Se presentan estudios fluoroscópicos: (1) para demostrar la reducción universal en la excursión del diafragma debida a la elevación de la presión intratorácica causada por el neumotórax y (2) para demostrar que la producción de la serie de síntomas ya descritos guarda una razón directa con la reducción en la movilidad del diafragma causada por el tratamiento. Como quiera que esta reducción en la movilidad del hemidiafragma izquierdo es, en efecto, una parálisis mecánica producida por la elevación de la presión intratorácica al mismo tiempo que tanto el músculo como el nervio frénico están intactos, se considera propio designar este síndrome en los términos siguientes: Parálisis mecánica del hemidiafragma izquierdo.

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## Automatic Exposure Control in Photofluorography\*

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*Washington, D. C.*

The value of the photofluorographic process in the examination of large population groups for pulmonary pathology is well recognized. Records of the armed services indicate that it has been of tremendous value in the selection of inductees and it promises to be equally useful in the examination of civilian groups.

The operation of photofluorographic equipment introduces several problems not usually encountered in general radiography. The rapid rate at which the procedure must be conducted, to permit the examination of large numbers of subjects, places a considerable strain on operating personnel and equipment. Furthermore, technical errors (inadequate exposure, improper positioning, etc.) must be maintained at an extremely low level because it is usually difficult to recall subjects for additional photofluorographic examinations. Finally, it is desirable that the diagnostic quality of the films be consistently uniform, for it is evident that the accuracy of an interpreter may be considerably impaired by the frequent appearance of technically poor photofluorograms.

To facilitate the photofluorographic process and at the same time insure the production of films of consistently high quality a photoelectric timing mechanism, or phototimer, which automatically controls the length of photofluorographic exposure has been developed. This device completely automatizes the photofluorographic process so that the technician is required merely to place the subject before the roentgen machine and close the exposure switch; no measurements or adjustments of roentgen equipment are necessary whatsoever. Regardless of the thickness and other characteristics of the chest, the photoelectric timing mechanism by its inherent design, consistently terminates roentgen exposure at the instant when a film has received the proper quantity of radiation to secure correct exposure. Thus, excellent uniformity of radiographic quality is obtained and repeat examinations due to technical failure are seldom necessary.

As described in previous publications,<sup>1,2</sup> the photoelectric timing mechanism consists primarily of a multiplier phototube and a condenser-thyratron-relay system. A schematic diagram of the

\*Read before the Tenth Annual Meeting of the American College of Chest Physicians, Chicago, Illinois, June 12, 1944.

\*\*From the Radiology Section, Tuberculosis Control Division, United States Public Health Service.

fundamental circuit arrangement is shown in figure 1. When the exposure switch, Sw, of the roentgen machine is closed alternating current flows through the primary winding of the transformer, T, and induces high voltage in the secondary coil. Energized by this voltage, the roentgen tube, A, emits a roentgen beam which passes through the subject standing in front of the hood, B, of the photo-fluorograph. The radiation is filtered of undesirable scattered components by the grid, G, and then impinges on the fluorescent screen, S. Some of the resulting light is focused by the lens,  $L_1$ , on the film, F, in the photographic camera,  $K_1$ ; simultaneously, another part is focused by the lens,  $L_2$ , on the phototube, P, in the phototube camera,  $K_2$ . In response to this latter radiation the phototube conducts a small electric current whose magnitude is proportional to the intensity of the fluorescent radiation. This current is collected by the condenser, C, and produces across its plates a potential which becomes progressively greater as the quantity of collected charge increases. When the potential reaches a certain level, the thyatron, V, becomes conductive and permits an electrical current to pass through the field coil of the relay, Re. Thereupon the relay's contacts open, the x-ray tube is de-energized and the photofluorographic exposure terminated.

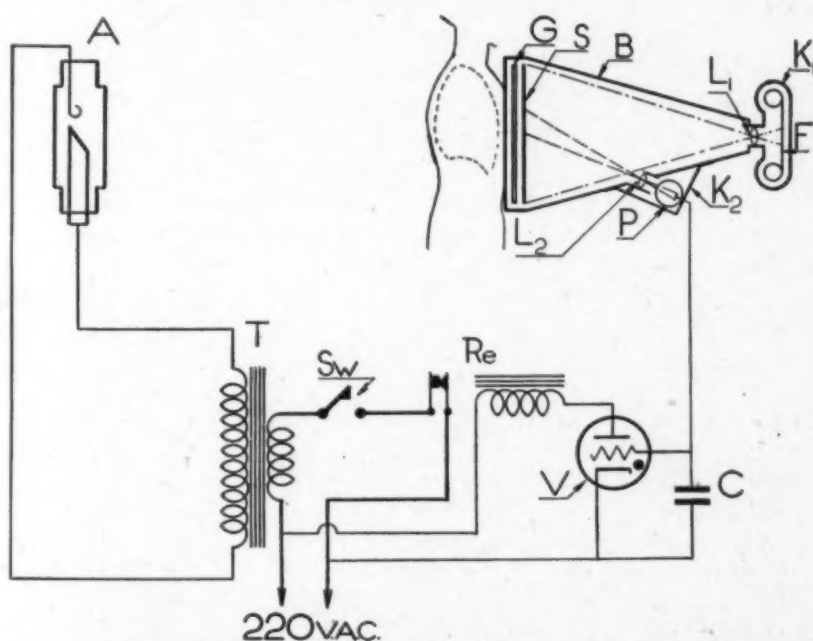
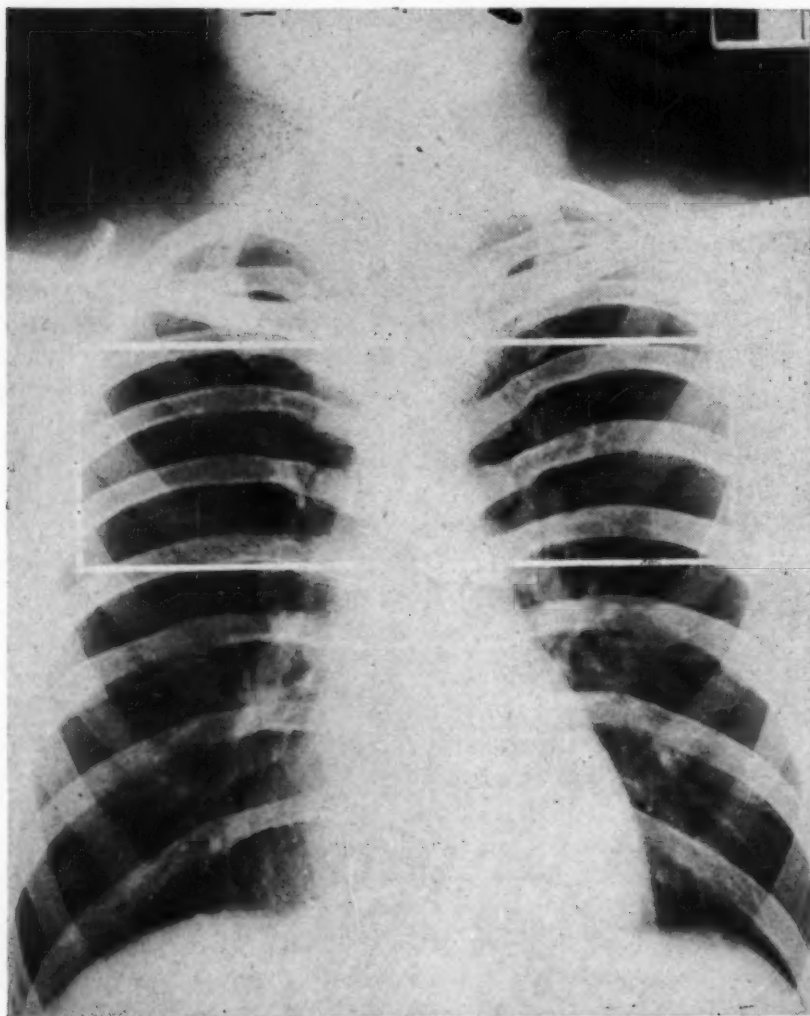


Figure 1: Fundamental circuit of the photoelectric timing mechanism applied to a photofluorograph. A, X-ray tube; B, pyramid of photo-fluorograph; G, grid; S, fluorescent screen;  $L_1$ , lens of photographic camera,  $K_1$ ; F, photofluorographic film;  $L_2$ , lens of phototube camera,  $K_2$ ; P, phototube; C, condenser; V, thyatron; Re, relay; Sw, exposure switch of X-ray machine; T, X-ray transformer.



Since the response of the phototube is directly proportional to the illumination of the fluorescent screen, exposure times will be long when the brightness of the screen is low (individuals with thick chests), for under these conditions a relatively long time will be required to charge the condenser sufficiently to terminate the exposure. When the fluorescent screen is bright however, (individuals with thin chests) exposure times will be short, for then, phototube current will be high and the condenser will be quickly charged to the level at which the thyatron interrupts the exposure. Thus, the reaction of the photoelectric timing mechanism is similar to that of a photofluorographic film. Indeed, just as a photo-



*Figure 2: Roentgenogram of the chest indicating in outline the portion of the photofluorographic image that is projected on the light-sensitive surface of the phototube.*

fluorographic film requires a certain quantity of radiant energy to produce a given photographic effect, so also the photoelectric timing mechanism requires a certain quantity of radiant energy before it terminates roentgen exposure. By properly adjusting the sensitivity of the phototube, P, the size of the condenser, C, and the potential at which the thyatron, V, becomes conductive, the phototimer can be made to terminate roentgen exposure at exactly the instant at which sufficient radiant energy has been delivered to the film to insure optimum diagnostic quality.

Although the entire fluorescent screen is focused on the photo-fluorographic film, only a small portion, shown in outline in figure 2, is projected on the sensitive surface of the phototube. The shape of the phototube's sensitive surface is such that it is impractical to focus the entire chest image upon it; furthermore it is theoretically unnecessary to scan more than a representative area of the lung fields. The practice of scanning the upper portions of both lung fields was decided upon because these areas are particularly significant from the standpoint of tuberculous pathology. Also, these portions exclude most of the heart shadow; therefore, variation in the size of the heart among different individuals will not cause variation in the operative characteristics of the phototimer. Furthermore, when this portion of the screen is scanned, the adjacent axillae and arms make it unlikely that an uncovered surface of the screen will be focused on the phototube should the patient be improperly centered from side to side. This is particularly important because, should an uncovered portion of the screen be projected on the phototube, the high intensity of this unfiltered radiation would cause the timer to act prematurely, thereby underexposing the film. Finally, the operation of the phototimer does not appear to be affected significantly by errors in vertical positioning within the limits of + or - 5 cm. of the optimum position when this area is used.

The operative procedure of a photofluorograph equipped with a photoelectric timing mechanism is extremely simple. At the beginning of the day's operations, the roentgen machine is turned on and the kilovoltage and milliamperage settings adjusted to convenient positions (for example, 90 K.V. (peak) and 200 milliamperes). Thereafter, the technician merely places the subject before the photofluorographic hood and closes the exposure switch; the phototimer controls each exposure automatically. Time-wasting measurements of the thickness of each subject's chest and adjustments of the roentgen machine are entirely eliminated.

It is rather seldom that two interpreters agree on the optimum level of radiographic density. Accordingly the automatic timing

mechanism is equipped with a sensitivity control with which the density of films may be regulated. Thus, if darker films are desired, the timing mechanism may be made less sensitive so that more time is required for the device to interrupt the roentgen exposure; on the other hand, if lighter films are desired, the mechanism may be made more sensitive so that exposures will be terminated more quickly.

Several automatic timing mechanisms have been in operation for many months on photofluorographic equipment belonging to the U. S. Public Health Service. One of these units has performed over 100,000 exposures and has given surprisingly little trouble. This field experience indicates that automatic timing reduces approximately 50 per cent the personnel required to operate a photofluorograph. In the past, two technicians have been assigned to each photofluorographic unit. One was necessary to position the subjects while the other, at the control panel, regulated the technical factors of exposure. With automatic timing however, the latter technician is unnecessary. In addition to this advantage, physicians report marked uniformity in film quality. This, they say, not only improves their diagnostic skill, but also reduces considerably the fatigue experienced when large numbers of films are examined. Finally, it has been observed that automatic timing reduces to insignificant proportions the number of subjects who must be re-examined due to technical errors.

#### SUMMARY

The photofluorographic examination of the chest constitutes one of the most important methods for the early recognition of pulmonary tuberculosis in large population groups.

The method, to be satisfactory however, requires that the procedure be conducted rapidly, that the number of repeat examinations due to technical failure be small, and that the quality of the photofluorograms be uniformly high.

In the past, the fulfillment of these criteria has been difficult, but recently has been greatly facilitated by the development of the photoelectric timing mechanism or phototimer. This device is an automatic exposure control which replaces the conventional timers on x-ray apparatus. When an x-ray machine is equipped with a phototimer, the technician is required merely to place the subject before the x-ray machine and to close the exposure switch; time-wasting adjustments of equipment are entirely eliminated. Furthermore, the device by its inherent design terminates x-ray exposure when a film has received the proper quantity of radiation to insure correct exposure.



## RESUMEN

El examen fotofluorográfico del tórax constituye uno de los métodos más importantes en el diagnóstico temprano de la tuberculosis pulmonar en grandes grupos de población.

Sin embargo, para que este método sea satisfactorio es necesario que el procedimiento se lleve a cabo con rapidez, que sea pequeño el número de reexámenes ocasionados por fracaso técnico, y que los fotofluorogramas sean uniformemente de alta calidad.

Antes era difícil cumplir con estos requisitos; pero recientemente se ha hecho mucho más fácil con la invención del mecanismo fotoeléctrico de regulación de tiempo, o fotoregulador de tiempo. Esta invención consiste en un control automático de la exposición que reemplaza a los reguladores de tiempo comunes en los aparatos radiográficos. Cuando el aparato radiográfico está provisto con el fotoregulador de tiempo, el técnico solamente tiene que poner al sujeto frente al aparato radiográfico y cerrar el conmutador de exposición; se eliminan completamente los ajustes del equipo que consumen tanto tiempo. Además, debido a su construcción intrínseca, esta invención termina la exposición radiográfica tan pronto como la película haya recibido la cantidad precisa de irradiación para asegurar una exposición correcta.

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## Reconditioning of Military Personnel as Carried Out in the Army\*

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The importance of reconditioning individuals incapacitated for resumption of their previous occupation after illness or injury was recognized only recently—for all practical purposes, during the so-called World War. The popular conception of physical reconditioning is that generally pictured in newspapers and periodicals, being the more spectacular forms; for example, amputees with artificial limbs, mutilés with plastic eyes and “seeing” dogs—or these same individuals in any of the several stages of treatment leading to the above mentioned final results.

Reconditioning is a procedure much wider in its scope, embracing the restoration of the individual physically, mentally and emotionally, as nearly as possible to the normal. Indeed, as now understood, it may well include further training and education so that upon completion of the scheduled offerings the trainee is so equipped as to be able to meet the hazards of life more successfully than his former situation may have suggested.

It will be attempted here to mention only a few salient features of the projected program for reconditioning military personnel and to cite some specific illustrations of the work being done at the Walter Reed General Hospital in Washington, D. C., as a type of the Army general hospital.

Physical reconditioning is brought about through many measures: (1) various types of specialized surgery, (2) physical therapy, (3) occupational therapy, and (4) special types of exercises—setting-up exercises, calisthenics, drills, marches, various types of manual labor, and games; these apply especially to individuals whose physical condition has improved to the point where they are practically ready to return to a duty status; (5) special forms of training—lip reading for the deaf, Braille for the blind, and speech training for laryngeal defects; (6) provision of necessary prostheses—legs, arms, artificial eyes, hearing aids, and special dental appliances.

The surgery and prostheses are, where indicated, essentials, as are the special forms of training such as lip reading. Too much em-

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\*Read before the New York State Chapter, American College of Chest Physicians, October 15, 1943.

\*\*Commanding Officer, Walter Reed General Hospital, Washington, D. C.

phasis should not be placed on any one of the other methods of rehabilitation as some specialists in these particular methods are sometimes inclined to do. A well rounded out schedule is not only more beneficial but also more interesting to the trainee.

It is important to recognize that each of these methods of reconditioning should be started at the earliest possible time; each, of course, according to the indication for it. It is not sufficiently appreciated that reconditioning is a part of treatment and should be carried out coincidentally. Just as the processes leading to death begin with birth, so do the measures leading to as complete functional recovery as may be expected, begin with the treatment of the disease or injury. We are not concerned here with the fact that many of the disabilities which have led to the rejection of such a large number of young men and women for the military service were also remediable in the early stages if properly and adequately cared for through these same measures of physical reconditioning. It is recognized that individual cooperation and financial means were requisites here even if the need for such reconditioning was recognized and insisted upon, which was too often not the case.

Just as surgery is to the layman more spectacular than general medicine in its procedure and accomplishments, so is the restoration of the crippled or mutilated soldier more intriguing to public attention than the equally difficult and important measures required to restore other war casualties to an adequate and desired station in life. I refer here to such types of disability as deafness, various psychoneuroses, chronic heart or kidney lesions, the arthritides, pulmonary tuberculosis, and various other conditions.

Speaking only of the casualties occurring in the Army forces, the medical department of the Army cannot, of course, do much more in many cases than restore missing parts, so to speak, and *initiate* those measures which must be carried out over a prolonged period to obtain as complete a physical reconditioning as may be had in a given case. In other words, active military hospital beds cannot be immobilized over long periods in order to carry out complete and definitive treatment to chronic cases, and here other government agencies come in, notably the Veterans Bureau where facilities are particularly adapted to this form of care.

The process of reconditioning must be a continuing one with a definite aim and would seem to be a government, not a state, project except possibly the vocational training part of the program. The criterion of success in reconditioning is the return of the individual to his military duties or to a gainful job.

All injured individuals must be made useful to the maximum, even to the extent of teaching them some specific suitable trade or occupation.



Too many agencies approaching a problem of this nature lead only to confusion and overlapping with loss of efficiency, no matter how interested and well-intentioned each group may be.

Further discussion will be limited to those measures presently carried out at Walter Reed General Hospital.

This hospital is a center for the specialties of (1) amputation cases, (2) neurosurgery, (3) chest surgery, (4) plastic surgery. Formerly deaf cases were also treated here. In addition all types of general medical cases requiring reconditioning are sent to this hospital.

Illustrative of one of the special types of surgery required to restore physical function as nearly as possible to normal, is quadriiceps-plasty. Many injuries to the thigh and fractures of the femur heal but leave the patient with a stiff knee joint due to scarring, fibrosis and adhesions in the joint and in part or all of the quadriiceps muscle group. By a plastic procedure upon the quadriiceps muscle (developed by the Orthopedic Section of Walter Reed General Hospital) it has been possible to restore active knee motion to these soldiers.

The two most common neurosurgical problems encountered at the Walter Reed General Hospital among battle casualties are: (1) injuries to the major nerve trunks of the extremities, and (2) penetrating wounds of the skull. Two technical developments have contributed greatly to the restoration of these disabled soldiers to a useful status. A metallic substance has been found which, when buried in human tissues, is completely inert. That substance is tantalum, a basic element. It can be drawn into a wire as fine as a human hair, yet maintain good tensile strength; and can be rolled into a foil so thin that nerves and tendons may be wrapped in it without producing deformity.

After the injured nerve trunk is freed from extrinsic scar tissue and neuroma, end to end suture with fine tantalum wire is made, then a cuff of tantalum foil is wrapped around the suture line to prevent scar re-forming at the site of the anastomosis. The cuff is removed about five months later. Fibrous tissue infiltration is absent from the surrounding scar and excellent restoration of function is obtained.

Tantalum wire is useful also for support of paralyzed facial muscles, with several advantages over the old method of using strips of fascia lata.

Tantalum plates 0.15-inch in thickness can be fashioned to fit skull defects so perfectly that detection is impossible by close inspection and palpation. Patients having had such repair of skull defects are usually returned to full duty six to eight weeks after the operation.

Thoracic conditions call for still another specialized type of surgery in order to restore the disabled soldier to a functioning status. Among the conditions so treated are bronchiectasis, bronchiogenic cyst, intrathoracic neurofibromata, and foreign bodies.

We consider morale as of first importance among the patients and all echelons of the duty personnel are constantly endeavoring in their contact with patients to build up, encourage and preserve this necessary asset.

Morale is affected by various factors: (1) contact with other patients with similar disabilities especially if success has been attained in the physical reconditioning of these cases, (2) explanation of their trouble by doctors and nurses, (3) visits by Red Cross workers, Gray Ladies, chaplains and relatives, (4) adequate amusement facilities—radio, music, shows, games and library facilities, (5) clean and cheerful surroundings, (6) good food, adequate in variety and invitingly prepared, (7) correspondence with relatives, (8) special alleviative forms of treatment, and (9) subjective indications of progress toward recovery. These factors are not arranged in their order of importance which would vary with individual cases.

Head injuries often require prolonged treatment with a constant appreciation of the necessity for evaluation of the mental reaction of the individual patient. Encouragement as to his recovery, kindness combined with firmness in requiring active cooperation in those measures indicated for his physical and mental welfare, and a sufficiency of well-selected recreational activities are important factors. Some cases may require speech training or perhaps special eye exercises.

Sudden deafness such as occurs from the blast of high explosive is a deprivation of an essential means of orientation producing profound emotional disturbances and requiring prompt psychological as well as other special reconditioning measures. Because of the destructive effect of deafness on the individual's personality, this reconditioning should begin immediately upon the loss of the soldier's hearing. The deafened soldier should be exposed to a program of psychological and other special measures, the goal of which is to restore the individual to as nearly normal living as possible. The program should be surcharged with an intelligent optimism. Frequently a teacher of lip reading who has mastered his own impairment of hearing and who brings to his work a personality which radiates confidence is available; such an individual is not only an instructor in lip reading, but at the same time an excellent psychologist.

Many patients will never make the possible or desired degree of recovery because of lack of interest, lack of cooperation, and their mental make-up. Better success is attained by grouping cases of

the same nature so as to provide a community interest, comradeship, competitive progress, as well as the good example of the improved cases.

Reconditioning is one of the costs of war and in its final stages should be carried along to the point of securing employment for those to be separated from the service. A special agency of the government has been set up for this purpose. In the World War soldiers were given the best available in the way of diagnosis and treatment including physical therapy, occupational therapy and vocational training. In this, the global war, they are receiving all of the above in a more efficient manner and furthermore are put in contact with jobs, this through the Veterans' Employment Services, a government agency. All military patients leaving the hospital, other than those being returned to duty, are interviewed by representatives of this agency as their physical and mental condition permits and are fully informed as to the facilities available for them for training in special types of work as well as the securing of employment.

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## Man Power and Tuberculosis

### Council on Military Affairs and Public Health

Man power has long since been one of the major problems of industrial America. It is well known that one of the largest pools of military-exempt workers consists of those who have or have had pulmonary tuberculosis; therefore, industrial management is again forced to face the serious problem of the employment of the handicapped.

Many of our tax-supported sanatoria are now being operated at half capacity wholly because people who should be under treatment for various stages of tuberculosis have gone into industry, partly because of patriotic reasons but mostly because of the lure of high wages.

Employment of the tuberculous is now a necessity and should be encouraged under certain restricted conditions. Industry has been forced to employ many handicapped persons and we know that these handicapped people have made good employees; however, without proper medical supervision and medical placement, the employment of such physically handicapped individuals may not only increase insurance rates and operational costs but may even create a greater man power problem.

Pulmonary tuberculosis is principally a disease of those between the ages of 15 and 45. This age group corresponds with the great bulk of our industrial workers.

It goes without saying that the question of employing disabled persons is pretty much a matter of individual employer policy, and because of this there is a great need for education among employers in this direction.

It is the responsibility of industry to assist in the development, organization and adoption of a sound policy of employing tuberculous individuals.

Society makes industry possible. Industry obligates itself for more than the wages paid to employees and taxes paid to governmental agencies.

All of our large industries now have fairly adequate medical departments under the supervision of highly competent medical directors. Since the United States Public Health Service has reported that one per cent of the industrial population of 117 industries surveyed are tuberculous, it would appear very important that the medical director of each industry should be authorized to employ a chest specialist either part time or full time as a consultant. The services of such a specialist would prove invaluable, not only in the survey of applicants but also for the direction and follow-up of all tuberculous individuals now employed.

The same is true in the cases of small industries because, as a rule, insurance rates are higher in a small plant than in a large one.

If tuberculous individuals are to be employed with safety to all concerned, the following rules should be observed:

- (1) All employees should be x-rayed.
- (2) All applicants should be x-rayed.
- (3) Every individual case with minimal healed tuberculosis may be employed at some type of work.
- (4) Every individual case who shows moderate involvement but healed may be employed at some type of work providing the surroundings are dust free.
- (5) No active case of tuberculosis should be employed. Such persons should be referred to their physicians or to a local tuberculosis clinic or sanatorium.
- (6) No person who has had clinical tuberculosis should be employed unless he has been clinically free of symptoms for one year.
- (7) When an arrested case of tuberculosis has been employed, he should be placed under medical supervision and assigned to a job by special selection. He should never be transferred to another job without permission of the medical department.

After each absenteeism of such persons because of illness, a complete physical, x-ray and laboratory examination should be made.

If such a case becomes re-activated, he should be furloughed from his job and sent to his family physician or to a sanatorium with the assurance that upon the arrest of his disease and with the consent of the medical department he will be re-employed.

The Council on Military Affairs and Public Health of the American College of Chest Physicians, in an article entitled, "Tuberculosis in Our Industrial Army: An Appeal to Management and Labor," emphasized the importance of mass x-ray of all industrial employees and pointed out that labor should protect itself against close association with tuberculous employees and that management should protect itself against future liability as well as safeguard the health of the community in which the industry is located. With further reference to mass x-ray of employees and applicants, it is suggested that if the medical department of an industrial plant is not equipped for this work, the management authorize the medical director of the plant to make the necessary arrangement for mass x-ray through a local tuberculosis agency, the United States Public Health Service, or one of the x-ray corporations that offers mass x-ray service.

If the large or the small plant finds it impossible to secure x-ray facilities, the skin test may be employed as a screening method for deciding who should be x-rayed. Arrangements could then be

made for the x-ray of these reactors. This would greatly reduce the number of x-rays required. It must be pointed out, however, that a skin test alone is not a fair or accurate enough guide to be accepted as a basis of employment.

As stated before, one of the largest pools of military-exempt workers consists of those who have or have had pulmonary tuberculosis. We, therefore, appeal to management on behalf of the many employees, economy, and society to authorize the employment of a competent tuberculosis specialist as a consultant to the medical department of your plant.

Chas. M. Hendricks, M.D., F.C.C.P.  
El Paso, Texas, *Chairman.*

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### Speakers' Bureau Council on Postgraduate Medical Education

Because of the cancellation of national and state medical meetings it is important that local medical societies assume the responsibility of continuing the teaching programs formerly conducted at these meetings.

The Speakers' Bureau of the American College of Chest Physicians, functioning under the direction of the Council on Postgraduate Medical Education of the College, announces that there is maintained in the Executive Offices of the College at Chicago, a list of speakers who are available for medical meetings. Below are listed some of the subjects on which these speakers are prepared to talk. Many of the subjects can be illustrated with lantern slides and motion pictures.

- A dynamic approach to pulmonary tuberculosis.
- Abuse of bedrest in tuberculosis.
- Allergy in non-tuberculosis disease of the chest.
- Application of surgery to tuberculosis.
- Aspects of pulmonary new growths.
- Atelectasis in pulmonary tuberculosis.
- Bronchiectasis.
- Bronchiectasis complicating tuberculosis.
- Bronchoscopic diagnosis in bronchopulmonary diseases.
- Bronchial tuberculosis.
- Bronchial tumors.
- Carbon dioxide by inhalation in the management of cough.
- Carcinoma of the lung.
- Chest diseases in the army.
- Chronic empyema.
- Clinical aspects of tuberculosis.
- Collapse therapy in pulmonary tuberculosis.
- Combining procedures in chest surgery.
- Component subjects relating to rhinolaryngology or bronchoscopy.
- Cultures and x-ray readings in "viral pneumonias."
- Cysts.
- Decortication.
- Development of silicosis in workers of quartz mines in Colorado.



Diabetes and tuberculosis.  
Diagnosis and treatment of bronchogenic carcinoma.  
Diagnosis and treatment of early pulmonary tuberculosis.  
Diagnosis and treatment of tuberculosis in otolaryngology.  
Differential diagnoses of pulmonary diseases.  
Differential diagnosis of pleural effusions.  
Early diagnosis of renal tuberculosis.  
Early diagnosis of tuberculosis.  
Endobronchial tuberculosis and artificial pneumothorax.  
Evidence showing definite diminution and morbidity by repeated installation of lipiodal into the lung.  
Fate of pleural effusions without demonstrable tuberculosis of the parenchyma.  
Foreign bodies in the esophagus.  
Foreign bodies in the lungs.  
Fungus diseases of the lungs.  
Graduated exercise in tuberculosis.  
Indications for bronchoscopy.  
Intestinal tuberculosis.  
Modern methods of treatment of tuberculosis.  
Neck infections.  
Non-tuberculous bronchial infections.  
Objectives in the treatment of pulmonary tuberculosis.  
Over-hospitalization in tuberculosis.  
Pathology of the allergic states.  
Pleurisy with effusion.  
Pneumolysis.  
Pneumoperitoneum combined with phrenic nerve paralysis in the treatment of pulmonary tuberculosis.  
Pneumoperitoneum treatment of pulmonary tuberculosis.  
Primary atypical pneumonia.  
Primary carcinoma of the lung.  
Psychosomatic medicine and tuberculosis.  
Pulmonary asbestosis (diagnosis and nature of disability).  
Pulmonary abscess.  
Pulmonary coccidioidomycosis.  
Pulmonary resection in tuberculosis of the lungs.  
Re-expansion phases in artificial pneumothorax.  
Rehabilitation of the tuberculous from the standpoint of the physician.  
Role of small hospital (TB) in community.  
Sarcoidosis.  
Silicosis and its complications.  
Smoking in tuberculosis.  
Some aspects of artificial pneumothorax.  
Surgical procedures for collapse of lung.  
Surgical treatment of patent ductus arteriosus.  
Surgical treatment of tuberculosis.  
Total laryngectomy.  
Treatment of empyema with penicillin.  
Treatment of empyema (TB) with irritant oils.

Treatment of pulmonary and tracheo-bronchial tuberculosis.  
Tuberculosis of the major bronchi.  
Tuberculosis in the Negro.  
Tuberculous empyema (etiology, diagnosis, treatment).  
Tuberculous endobronchitis.

The Council urges the Governors, Regents and officials of the College chapters to communicate with the members of the tuberculosis committees of the state medical societies and with the program committees of the county medical societies and arrange for the presentation of one or more papers on chest diseases at the meetings of the county medical societies.

For the names of speakers and for further information, address the Council on Postgraduate Medical Education, American College of Chest Physicians, 500 North Dearborn Street, Chicago 10, Illinois.

J. Winthrop Peabody, M.D., F.C.C.P.  
Washington, D. C., Chairman.

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### Board of Examiners

The Board of Examiners of the American College of Chest Physicians report that 27 of the 32 applicants for Fellowship have passed the written examination and have been admitted to the College as Fellows:

Lloyd R. Ayers, De Ridder Army Air Base  
A. C. Cohen, Indianapolis, Indiana  
Charles Cramer, Jackson Heights, N. Y.  
Harry M. Crystal, Chicago, Illinois  
H. T. Cutrera, Chicago, Illinois  
Lewis J. Dimsdale, Clinton, Iowa  
Arthur G. Falls, Chicago, Illinois  
Kal Freireich, South Bend, Indiana  
Saul Gordon, New York, N. Y.  
G. D. Guilbert, Livermore, California  
Myron Herman, Staten Island, N. Y.  
Felix A. Hughes, Camp Rucker, Alabama  
Alexander S. Mack, Oak Harbor, Ohio  
G. N. Pierce, San Francisco, California  
Frank E. Pope, Astoria, Long Island, N. Y.  
Allen D. Riemer, Denver, Colorado  
Edward H. Robitzek, Staten Island, N. Y.  
Jacob S. Rosen, Brooklyn, N. Y.  
Herman Samuels, Long Island City, N. Y.  
C. Gerald Scarborough, San Jose, California  
Benjamin Schneider, Danville, Pa.  
David Shapiro, Richmond, Virginia  
David M. Skilling Jr., St. Louis, Missouri  
Kent Salter, Paterson, New Jersey  
Albert E. Steer, Sedalia Army Field, Missouri  
R. H. Walker, Martinsville, Virginia  
M. M. Williams, Fort Leonard Wood, Missouri

The above Fellows passed the following written examination:

*Pulmonary Diseases:*

- (1) In a haemotogenous tuberculous infection of the lung, where would you expect the primary source to be?
- (2) Describe the classification of pulmonary tuberculosis.
- (3) Where would you look for the source of infection when you encounter a spontaneous tuberculous pleural effusion?

- (4) When should one consider deviating from rest therapy in pulmonary tuberculosis to collapse therapy?
- (5) What are the indications for a lobectomy or pneumonectomy in pulmonary tuberculosis?

(Answer first two questions and one of questions 3, 4 and 5.)

*Thoracic Surgery:*

- (1) Discuss the management of a crushing injury of the chest.
- (2) Discuss diagnosis and management of spontaneous pneumothorax in a tuberculous subject.
- (3) Give indications for permanent pulmonary collapse in tuberculosis and discuss possible methods of effecting such a collapse.
- (4) What is acute cardiac tamponade, when should it be suspected, and what are the cardinal signs of this condition?
- (5) Discuss temporary and permanent phrenic paralysis from the standpoint of indications.

(Answer first two questions and one of questions 3, 4 and 5.)

*Pathology:*

- (1) Define Primary complex.
  - a. During what period of life does it most frequently occur?
  - b. In what organ system is it most frequently found?
- (2) Why is it often hazardous to induce an artificial pneumothorax when an area of caseous lobular pneumonia is undergoing liquefaction and cavity formation?
- (3) What are the complications of chronic pulmonary tuberculosis?
- (4) Distinguish the gross differences in the lungs between chronic pulmonary tuberculosis and lung abscess.
- (5) Explain the mechanism of tuberculous meningitis in a child whose only other tuberculous lesions are a calcified primary complex in the lungs and calcified tuberculous nodules in the liver and spleen.

(Answer first two questions and one of questions 3, 4 and 5.)

*Physiology:*

- (1) An acute atelectasis is accompanied by cyanosis and dyspnea, which generally improve greatly as the atelectasis becomes complete and of longer duration. Why?
- (2) A selective pneumothorax is one in which a diseased lobe or portion of a lung is well collapsed while the undiseased portion is little collapsed and expands freely. What mechanism is responsible for this if no portion of the visceral and parietal pleurae are adherent?
- (3) What is the significance of apnea? How may this be corrected?
- (4) In one artificial pneumothorax, an adhesion may interfere with the collapse of a cavity while in another, with an adhesion which is just as broad and firm and unyielding, the cavity closes. Assuming no difference in refills or pressures, what reason would you assign for this?
- (5) Why does an emphysematous individual require a longer period to return to his resting respiration after dyspnea following exertion than is required by a normal person?

(Answer first two questions and one of questions 3, 4 and 5.)

*Bacteriology:*

- (1) A case with positive x-ray and physical findings and expectoration, but the laboratory reports the sputum negative for tubercle bacilli. What examinations of the sputum would you suggest to make the diagnosis of the case?
- (2) Tuberculins are used for diagnosis. What are they, and describe a few.
- (3) How many different methods are used for the examination of sputum for tubercle bacilli? Which is the most reliable?
- (4) How many acid-fast organisms are pathogenic for humans, and how are they differentiated?
- (5) What are the most important laboratory tests used to determine the progress of a tuberculous case?

(Answer first two questions and one of questions 3, 4 and 5.)

*Chairman, Board of Regents*

J. C. Placak, M.D., F.C.C.P.  
Cleveland, Ohio

*Board of Examiners*

George G. Ornstein, M.D., F.C.C.P.  
New York City, Chairman  
Ralph C. Matson, M.D., F.C.C.P.  
Portland, Oregon  
Jay Arthur Myers, M.D., F.C.C.P.  
Minneapolis, Minnesota

*Recent Figures on Tuberculosis Deaths*

The tuberculosis death rate for the first 9 months of 1944 is 42.1 per 100,000 population. This rate is lower than that of 42.6 and 43.1 for 1943 and 1942 respectively. A comparison of the age-specific rates, on an annual basis and based on a 10 per cent sample of death certificates, from January to September of 1943 and of 1944 are:

Age	Total		Male		Female	
	1944	1943	1944	1943	1944	1943
All ages	42.1	43.1	54.1	54.3	30.9	32.2
1-14	6.5	4.8	6.7	4.2	6.3	5.5
15-24	33.9	33.4	30.0	26.3	36.9	39.7
25-44	51.0	52.8	60.5	63.6	42.7	42.9
45-64	66.0	69.8	101.8	105.5	29.4	32.9
65 and over	78.6	79.6	106.0	109.9	53.0	51.2

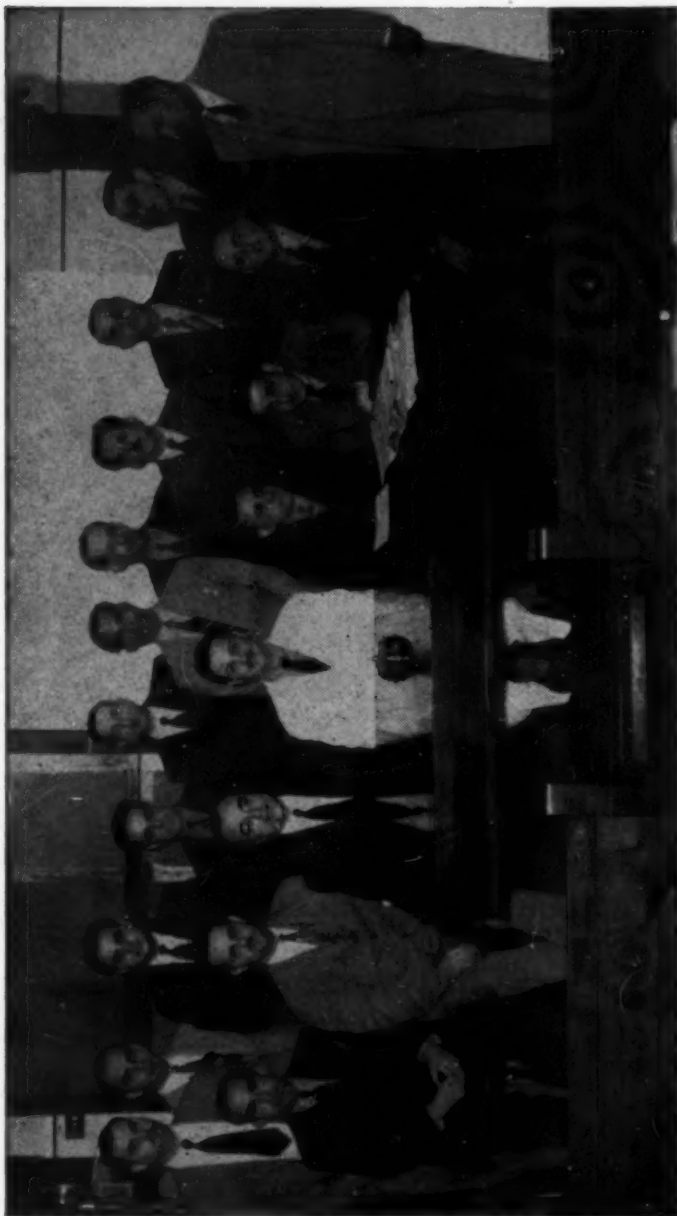
*Indiana Chapter*

The Indiana Chapter of the College will meet on Sunday, March 18, at the Columbia Club, Indianapolis. The following program has been arranged:

- "Survey of Rejectees from Army because of Tuberculosis," T. A. Woodson, M.D., Waverly Hills, Kentucky.
- "Survey of Rejectees from Army because of Non-tuberculous Lung Lesions," D. W. Brodie, M.D., Indianapolis, Indiana.
- "Tuberculous Pneumonia," J. W. Strayer, M.D., Lafayette, Indiana.
- X-Ray Conference.



# INAUGURATION OF THE CUBAN CHAPTER OF THE AMERICAN COLLEGE OF CHEST PHYSICIANS



*Back row, left to right: Dr. Eduardo Rivero, Dr. Humberto G. Machado, Dr. J. M. Moscoso, Dr. E. Dominguez Mahoney, Dr. J. Gurri Aguilera, Dr. R. Sanchez Acosta, Dr. R. Garcia Mendoza, Dr. J. Garcia Arrazuria, Dr. Jose F. Quiliones, Dr. Francisco J. Menendez, Dr. Atlano Infante. Front row, left to right: Dr. Carlos Varela, Dr. Antonio Navarrete, Dr. Alfredo Antonetti, Dr. Frank Walton Burge, Dr. Juan J. Castillo, Dr. O. Cabrera Macias, Dr. Joaquin Martos.*

## Pan American Review

### Council on Pan American Affairs

### American College of Chest Physicians

In 1938 it was decided by the Board of Regents of the College that steps be taken to establish the College as an international society of qualified chest specialists. Invitations were extended to leading chest specialists in several of the other American republics to affiliate with the College and assist in the organization of the Pan American program.

The first physician to take advantage of this invitation was Dr. Donato G. Alarcon, Professor of Tuberculosis, National University of Mexico, School of Medicine, and Medical Director of the Tuberculosis Sanatorium, Huipulco, D. F., Mexico. Soon thereafter Dr. I. Cosio Villegas, Professor of Clinical Medicine, National University of Mexico, School of Medicine and Dr. Octavio Bandala, Assistant Professor of Respiratory Diseases, were admitted to Fellowship in the College. These important physicians from Mexico formed the nucleus for the development of the College program in that country.

Early in 1940 Dr. Antonio Navarrete, Assistant Professor of Medicine, University of Havana Medical School, Cuba, was admitted to Fellowship, and in the same year Dr. Juan Tanca Marengo, Professor of Medicine and Tuberculosis, University of Guayaquil, Ecuador, was also admitted to Fellowship in the College.

Thus was begun the expansion of the College program in the other American republics which has since developed into one of the strongest organizations of its kind in the world.

### Cuban Chapter

On December 24, 1940, a meeting was arranged at the Furbush Dispensary, Havana, Cuba, under the direction of Dr. Antonio Navarrete at which time the first chapter of the College in the Latin American countries was organized. Dr. Frank Walton Burge, Philadelphia, Chairman of the Board of Regents of the College at the time, attended the meeting at Havana and assisted in the organization of the Cuban Chapter. Dr. Juan J. Castillo, president of the Cuban Phthisiological Society, presided at the meeting and introduced the speakers. Seated at the speaker's table were: Dr. Antonio Navarrete, Governor of the College for Cuba; Dr. Alfredo Antonetti, Professor of Phthisiology at the University of Havana; Dr. Joaquin Martos, Director of La Esperanza Sanatorium; Dr. Francisco J. Menendez, Director of the Laennec Dispensary; Dr. Osvaldo Cabrera Macias, Dr. Jose F. Quinones, Vice-President and Secretary of the Cuban Phthisiological Society, and Dr. Frank Walton Burge.

The following interesting scientific program was presented:

"A Case of Mediastinal Hernia in the Course of a Bilateral Pneumothorax," by Dr. Ricardo Sanchez Acosta.

"Subcutaneous Emphysema in Pulmonary Tuberculosis," by Dr. Carlos Varela Figuerel.

"Bronchiectasis and Pulmonary Tuberculosis," by Dr. Antonio Navarrete.

The papers were discussed by the distinguished guests at the meeting.

In addition to the physicians mentioned above, other members of the College present were: Dr. Gustavo Aldereguia, Dr. Octavio Rivero Partagas, Dr. Eduardo Rivero Castro, Dr. Manuel Ampudia Gonzalez and Dr. Jose Garcia Arrazuria.

Dr. Navarrete has since been elevated to the office of Regent of the College and his enthusiastic and ardent efforts in the development of the Cuban Chapter contributed much to the development of the College chapters in the other Latin American countries.

The first officers elected by the Cuban Chapter of the College were: President, Dr. Gustavo Aldereguia; Vice-President, Dr. Octavio Rivero Partagas; Secretary, Dr. Francisco J. Menendez.

Since its organization, the Cuban Chapter has held meetings regularly and the present officers of the Chapter are: President, Dr. Octavio Rivero Partagas; Vice-President, Dr. Rene Garcia Mendoza; Secretary, Dr. Orfillo Suarez de Bustamente.

Past Presidents of the Cuban Chapter are: Dr. Alfredo Antonetti, 1942, and Dr. Teodosio Valledor Campos, 1943.

Dr. Chevalier L. Jackson was the guest speaker at the meeting of the Cuban Chapter of the College held at the Medical School of the University of Havana, Tuesday, April 14, 1942. The following program was presented:

- 1) Introductory Speech, Dr. Gustavo Aldereguia, President of the Cuban Chapter of the College.
- 2) X-Ray Study of the Internal Relief of the Respiratory Organs, Dr. Pedro L. Farinas, demonstrating a new mucosographic technic evolved by the author.
- 3) The Bronchoscope and Its Role in Modern Medicine, Dr. Chevalier L. Jackson.
- 4) Cases Illustrating Different Aspects of Tracheobronchial Diseases, Drs. A. Antonetti, J. Gros, F. J. Menendez, P. Hernandez, J. G. Arrazuria, R. G. Mendoza, R. Meneses, A. Navarrete.
- 5) Closing Remarks, Dr. Antonio Navarrete, Regent of the American College of Chest Physicians.

In March, 1943, one of the most important meetings of the Cuban Chapter of the College was held at the Instituto de Vias Respiratorias, Havana, Cuba. One of the first cases of successful pneumonectomy in Cuba was reported by Dr. Antonio Rodriguez Diaz and the session was turned into a symposium on thoracic surgery in which clinicians, radiologists, anesthetists, bronchoscopists and thoracic surgeons participated. Some of the physicians who entered into the discussion were: Drs. J. Centurion, P. Iglesias Betancourt, C. Rodriguez Remos, M. Martinez Curbelo, R. Barata, J. J. Castillo, T. Valledor Campos, Pedro L. Farinas, Antonio Navarrete, and Alfredo Antonetti. The discussion was closed by Dr. Ricardo Nunez Portuondo, one of the leading surgeons in Cuba. There was a large attendance at the meeting and thoracic surgery was given great stimulus in Cuba as a result of this meeting.

In the December, 1942 issue of "Diseases of the Chest" there appeared an article on "*Tuberculous Tracheobronchitis*" by Dr. Francisco J. Menendez, and Dr. Pedro Hernandez Gonzalo, Havana Cuba. This paper was read before the Cuban Chapter of the College in 1941.

An article was published in "Diseases of the Chest," March-April, 1943, by Dr. R. Sanchez Acosta, and Dr. P. Diaz Juan, Havana, Cuba, entitled

**DR. CHEVALIER L. JACKSON GUEST SPEAKER FOR CUBAN CHAPTER**

*Reading from left to right: Senator Dr. Octavio Rivero, Governor; Dr. Antonio Navarrete, Regent; Dr. Chevalier L. Jackson, Guest Speaker; Dr. Luis Ortego, President; Dr. Gustavo Alderegula, President, Cuban Chapter.*

*"Giant Mediastinal Hernia in the Course of Bilateral Pneumothorax"*  
(Vol. IX, No. 2, pp. 166-168).

A delegation from the Cuban Chapter of the College was received by Dr. Ramon Grau San Martin, President of Cuba, and the introductions were made by Dr. Octavio Rivero Partagas, Cuban Senator and a Fellow of the American College of Chest Physicians. A letter from Dr. Jay Arthur Myers, President of the American College of Chest Physicians, was presented to Dr. Grau San Martin congratulating him upon his election as President of the Republic of Cuba.

Early in 1942 the Committee on Medical Preparedness for Cuba invited the Cuban Chapter of the College to appoint two delegates to serve on the committee. Dr. Antonio Navarrete and Dr. Alfredo Antonetti were appointed by the Cuban Chapter as the official representatives.

### **Pan American Council Organized**

In June, 1941 there was inaugurated within the College a Council on Pan American Affairs. This Council was appointed by Dr. Benjamin Goldberg, Chicago, President of the College at the time, and consisted of the following members: Dr. Chevalier L. Jackson, Philadelphia; Chairman; Dr. Benjamin Goldberg, Chicago; Dr. Ralph C. Matson, Portland, Oregon; Dr. Edgar Mayer, New York City; Dr. Jay Arthur Myers, Minneapolis; Dr. Richard Overholt, Brookline, Mass.; Dr. Arthur Q. Penta, Schenectady, N. Y.

This Council has since been increased in size and the scope of its work has been materially expanded. All of the Governors and Regents of the College for the Latin American countries have been made members of



the Council. The chairman of the Council, Dr. Jackson, has made a number of visits to the other American republics and he has been instrumental in stimulating the College program in all of those countries. Visits to various Latin American countries have also been made by other United States members of the College: Dr. Leo Eloesser, San Francisco, now Vice-Chairman of the Council on Pan American Affairs; Dr. Paul H. Hollinger, Chicago, Secretary-Treasurer of the College; Dr. George G. Ornstein, New York City, former vice-president and chairman of the Board of Examiners of the College; Dr. H. E. Hilleboe, Washington, D. C., Governor of the College for the U. S. Public Health Service and a member of the Council on Military Affairs and Public Health of the College; and by Dr. Edgar Mayer, New York City, former president of the New York State Chapter of the College.

More recently, Dr. J. Winthrop Peabody, Washington, D. C., immediate past president of the College and a member of the Board of Regents, and Mr. Murray Kornfeld, Chicago, Executive Secretary of the College, together with Drs. Jackson, Eloesser and Hilleboe, attended the Sixth Pan American Congress Against Tuberculosis (ULAST) at Havana, Cuba.

The Council is cooperating with Dr. Charles E. Shepard, Director of the Training Division of the Institute of Inter-American Affairs, Washington, D. C., in sponsoring physicians who come to this country from the other American republics.

The first report by the Council on Pan American Affairs was published in the March-April, 1943, issue of "Diseases of the Chest" (Vol. IX, No. 2, p. 169).

### Eighth Annual Meeting of the College

At the annual meeting of the College held in Atlantic City in June, 1942 talks were made by Dr. Donato G. Alarcon, Mexico City; Dr. Alvaro E. Bence, Buenos Aires, Argentina; and by Dr. Antonio Navarrete, Havana, Cuba, which were published in the March-April, 1943 issue of "Diseases of the Chest" (Vol. IX, No. 2, pp. 170-180). Each speaker discussed the present status of tuberculosis in his respective country.

A paper entitled "*The Study of the Two Lungs Separately in Practical and Research Work*," prepared by Drs. Raul F. Vaccarezza, Alvaro E. Bence, Alfredo Lanari, and Francisco Labourt, was presented at the meeting and later published in the March-April, 1943 issue of "Diseases of the Chest" (Vol. IX, No. 2, pp. 95-114).

Dr. Raul F. Vaccarezza also had an exhibit in the scientific assembly of the American Medical Association at the Auditorium, Atlantic City, New Jersey, in 1942, on "*Epidemiology of Tuberculosis in the Argentina (Its Influence on the Human Economic Value)*," and on "*Results Obtained from the Examination of the two Lungs Separately*."

At the Eighth Annual Meeting of the College held at Atlantic City, June 6-8, 1942, Dr. Donato G. Alarcon, Mexico City, was elected Regent of the College and Dr. I. Cosio Villegas, Mexico City, was elected Governor of the College for Mexico. Dr. Gumersindo Sayago, Cordoba, was elected Regent of the College for Argentina and Dr. Raul F. Vaccarezza, Buenos Aires, was elected Governor of the College for Argentina. Dr. Affonso MacDowell, Rio de Janeiro, was elected Governor for Brazil; he has since been elevated to the office of Regent of the College. Dr. Ovidio Garcia Rosell, Lima, was elected as Governor for Peru. Dr. Antonio Navarrete, was re-elected as Regent of the College and Dr. Octavio

Rivero Partagas, was re-elected as Governor of the College for Cuba. Dr. Jacob Smith, Rio Piedras, was re-elected as Governor of the College for Puerto Rico.

Physicians from the Latin American countries who attended the meeting of the College at Atlantic City in June 1942, were: Drs. Alvaro Bence, Buenos Aires; Jose Gomez, Buenos Aires; Carlos M. Quinteros, Cordoba, Argentina; Antonio Navarrete, Havana, Cuba; Donato G. Alarcon; Miguel Alonso; Miguel Jimenez Sanchez; Fernando Katz Avrutsky; Aradio Lozano Rocha; Jose A. Raynal; and Fernando Rebora, of Mexico City, Mexico.

### College Journal, "Diseases of the Chest"

With the January, 1943 issue of "Diseases of the Chest" (Vol. IX), the format of the journal was changed, under the editorship of Dr. Ralph C. Matson, Portland, Oregon, and the number of pages were increased. Dr. Antonio A. Adames, Monrovia, California, was added to the staff as an assistant editor. Dr. Adames has since been in charge of the translation of the English summaries of scientific articles into Spanish. In June, 1944, Dr. Arthur Q. Penta, Schenectady, New York, was added to the staff as an assistant editor to be in charge of Portuguese literature and translations. Many of the eminent physicians in the other American republics have been added to the staff of corresponding associate editors.

### Brazilian Chapter

On November 13, 1942 the Brazilian Chapter of the American College of Chest Physicians was organized and the following officers were elected: President, Dr. Samuel Libanio; Vice-President, Dr. Galdino Travassos; Executive-Secretary, Dr. Carvalho Ferreira; Secretary-Treasurer, Dr. MacDowell Filho.

On December 22, 1943 the first scientific meeting of the Brazilian Chapter was held at the Policlínica Geral de Rio de Janeiro. The following papers were presented at the meeting: Dr. Roberto Pereira presented a paper on the subject of "*The Treatment of Empyema by Intrapleural Injection of Urea Solution*"; Dr. Carvalho Ferreira presented a paper concerning "*Results of Systematic Early Pneumolysis*"; and Dr. MacDowell Filho presented a paper on the subject of "*The Re-establishment of Pneumothorax Following Expansion in Cases without Pleural Symphysis*."

The meeting was called to order by Dr. Samuel Libanio, President of the chapter. Dr. Libanio made a brief talk concerning the aims and objectives of the chapters of the College. Dr. Affonso MacDowell, Régent of the College for Brazil, was introduced and he, too, stressed the need for a close cooperation between the Brazilian Chapter and chapters of the College in all of the other countries. A letter extending an invitation to the members of the Brazilian Chapter of the College to attend the annual meeting of the American College of Chest Physicians to be held in Chicago, Illinois, U. S. A., in June, 1944, was read by Dr. Affonso MacDowell Filho, and it was agreed to send a delegate to the annual meeting of the College provided transportation could be arranged. It was also agreed to adopt the plan advanced by the Executive Offices of the College to increase the membership of the Brazilian Chapter of the College in the various Brazilian states.

In the November-December, 1944 issue of "Diseases of the Chest" a

paper by Dr. Edmundo Vasconcelos, Sao Paulo, Brazil, entitled "*Cancer of the Esophagus: Original Technique for Total Esophagectomy*" was published (Vol. X, No. 6, pp. 471-480).

An article by Dr. Affonso MacDowell, entitled "*Tuberculosis and Pregnancy*" is scheduled for publication in an early issue of the journal.

### Puerto Rico Chapter

At a meeting held in Rio Piedras, Puerto Rico, January 31, 1943, another chapter of the American College of Chest Physicians was organized. Dr. J. Rodriguez Pastor served as Chairman for the meeting and Dr. A. M. Marchand as Acting Secretary. A motion was made and approved that the Sociedad Puertorriquena de Tisiologos become an official chapter of the American College of Chest Physicians. A Constitution and By-Laws for the chapter were approved in keeping with the aims and purposes of the American College of Chest Physicians, and the following officers were elected: President, Dr. David Garcia, Hato Rey; Vice-President, Dr. J. A. Franco Soto, Rio Piedras; Secretary-Treasurer, Dr. A. M. Marchand, Santurce.

The following members of the Board of Directors were elected: Dr. M. Godreau, Ponce; Dr. M. Santiago, Caguas; Dr. Guzman Rodriguez, Mayaguez; Dr. A. Acosta Velarde, Santurce.

The names of Dr. J. Rodriguez Pastor and Dr. Jacob Smith were approved for recommendation to the Board of Regents of the College for appointment as Regent and Governor, respectively, for Puerto Rico.

Changes in the Constitution and By-Laws to comply with specific recommendations made by the Puerto Rico Chapter of the College were submitted to the Board of Regents of the American College of Chest Physicians meeting in Chicago, February 14, 1943. These changes were approved by the Board of Regents of the College and the petition of the Puerto Rico Chapter for a charter was granted.

In September, 1942, Dr. David E. Garcia, Regent of the College for Puerto Rico at that time, published an article in "Diseases of the Chest" on "*Ambulatory Artificial Pneumothorax Treatment in Puerto Rico*" (Vol. VIII, No. 9, pp. 265-269).

On December 12, 1943 there was a meeting of the Puerto Rico Chapter held at San Juan, at which time all of the officers were elected to serve for another year.

The following papers were read at the scientific session:

"*Primary Atypical Pneumonia*," Dr. M. Guzman Rodriguez.

"*Rest in the Treatment of Tuberculosis*," Dr. A. Acosta Velarde.

"*Carcinoma of the Lung*," Dr. David Garcia.

"*Tuberculous Meningitis*," Dr. Alice Reinhardt.

On December 17, 1944 the Puerto Rico Chapter of the College held a meeting at Santurce. The meeting was called to order by the President, Dr. David Garcia. The following members were present:

Dr. Alice V. Reinhardt  
Dr. Guillermo Acosta  
Dr. Jose A. Amadeo  
Dr. Juan Arruza  
Dr. M. Zapata  
Dr. J. A. Franco Soto  
Dr. A. Acosta Velarde  
Dr. M. Guzman Rodriguez

Dr. Felix M. Reyes  
Dr. J. Rodriguez Pastor  
Dr. David Garcia  
Dr. A. M. Marchand  
Dr. Rafael Velazquez  
Dr. H. Marrero Otero  
Dr. R. T. Colon  
Dr. Jose Soto Ramos



Notice was given that the following members were absent from the island:

Dr. Manuel Santiago  
Dr. Miguel F. Godreau  
Dr. Miguel Alonso  
\*Dr. J. F. Pou

Dr. Federico Velazquez  
\*Dr. Luis R. Perea  
\*Dr. Jacob Smith  
\*Dr. Luis A. Passalacqua

\*In Military Service.

A clinico-pathological conference was presented by Dr. Guillermo Carreras, from the Department of Pathology of the School of Tropical Medicine, San Juan, Puerto Rico. A case of bilharziasis of the lung was presented and discussed.

Dr. David Garcia read a paper on "*Medical and Social Problems in the Treatment of World War No. 2 Veterans Suffering from Pulmonary Tuberculosis.*"

A motion was approved to the effect that a committee be appointed to study the problems of hospitalization of tuberculosis patients in Puerto Rico, this study to include the problems of hospitalization of war veterans. Recommendations after the study will be brought to the Board of Directors for discussion. The Board of Directors will then make specific recommendations to government officials in Puerto Rico and to the Veterans' Bureau.

The following members were appointed for the above-mentioned committee: Dr. David Garcia, Chairman, Dr. J. Rodriguez Pastor, and Dr. Manuel Guzman Rodriguez.

Reports from the president and the secretary-treasurer were approved.

A motion was approved thanking Dr. Jay Arthur Myers and Dr. Chevalier L. Jackson for the courtesies offered to a member of the chapter, Dr. R. Velazquez, during his trip to Continental United States for the Annual Meeting of the College.

The following Board of Directors were presented by the Nominating Committee and they were elected by a unanimous vote:

President, Dr. Antonio Acosta Velarde.

Vice-President, Dr. Manuel Guzman Rodriguez.

Secretary-Treasurer, Dr. Juan Arruza.

Board Members: Dr. Guillermo Acosta, Dr. Miguel Zapata,  
Dr. R. Velazquez, Dr. Jose A. Amadeo.

Recommendation for appointment as Regent when the term of the present Regent expires: Dr. David Garcia.

Recommendation for the appointment as Governor when the term of the present Governor expires: Dr. A. M. Marchand.

The meeting adjourned at 1:00 p. m. and members passed to a luncheon served at the building of the Puerto Rico Medical Association.

An editorial on the "*Tuberculosis Problem in Puerto Rico*" by Dr. J. Rodriguez Pastor, Regent of the College for Puerto Rico, was published in the September-October, 1944 issue of "Diseases of the Chest" (Vol. X, No. 5, p. 447).

## Mexico Chapter

The Mexican Chapter of the American College of Chest Physicians was organized at Mexico City on September 9, 1943, with 23 charter members. Dr. Edgar Mayer, New York City, was present at the meeting. During this meeting, the by-laws for College chapters were read and approved and the following officers were elected: President, Dr. Donato G. Alarcon,



## MEXICO ORGANIZES COLLEGE CHAPTER



Reading from left to right (First row): Drs. Hector Martinez de Alba, Miguel Jimenez, Donato G. Alarcon, Edgar Mayer, Ismael Cosio Villegas, Octavio Bandala. (Second row): Drs. Ricardo Tapia Acuna, Fernando Rebora, Aradio Lozano, Jesus Benitez, Fernando Katz, Jose Reynal and Horacio Rubio Palacios.

Mexico City; Vice-President, Dr. Ismael Cosio Villegas, Mexico City; Secretary-Treasurer, Dr. Octavio Bandala, Mexico City.

A paper by Dr. Donato G. Alarcon, Mexico City, entitled "*Extrapleural Pneumothorax—Prejudices and Facts*," was published in the March-April, 1943 issue of "*Diseases of the Chest*" (Vol. IX, No. 2, pp. 137-150).

## Argentine Chapter

The Argentina Chapter of the American College of Chest Physicians was organized on April 29, 1944, with the official title of "*Asociacion de Neumonologia Capitulo Argentino del American College of Chest Physicians*," and the following officers were elected to hold office for the ensuing year:

President, Dr. Gumersindo Sayago, Cordoba.

Vice-President, Dr. Raul F. Vaccarezza, Buenos Aires.

Secretary-Treasurer, Dr. Juan Carlos Rey, Buenos Aires.

Dr. Gumersindo Sayago, the first president of the chapter, is Regent of the College and Dr. Raul F. Vaccarezza, Vice-President, is Governor of the College.

An article was published in "*Diseases of the Chest*," November-December, 1943, by a group of doctors from Cordoba, Argentina, in collaboration with Dr. Jay Arthur Myers, and Dr. F. E. Harrington, of Minneapolis, Minnesota. The title of the article is "*Observations on Tuberculosis in the City of Cordoba and Pampa De Achala, Argentina, and Minneapolis, Minnesota*" (Vol. IX, No. 6, pp. 467-478).

A paper entitled "*The Study of the Two Lungs Separately in Practical and Research Work*" prepared by Drs. Raul F. Vaccarezza, Alfredo Lanari, and Francisco Labourt, Buenos Aires, Argentina, was published in the March-April, 1943 issue of "Diseases of the Chest."

## Peru Chapter

The members of the American College of Chest Physicians in Peru met at the Peruvian Medical Association Headquarters at Lima on August 13, 1944, and founded the Peruvian Chapter of the American College of Chest Physicians. The following officers were elected:

President, Dr. Ovidio Garcia Rosell.  
Vice-President, Dr. Juan Escudero Villar.  
Secretary-Treasurer, Dr. Max Espinosa Galarza.  
Treasurer, Dr. Luis G. Hubner.  
Bibliothecary, Dr. Mario Pastor B.

In addition to the officers, the charter members of this chapter are:

Dr. Dagoberto E. Gonzalez	Dr. Horacio Cachay Diaz
Dr. Juan Macchiavello	Dr. Roman del Castillo
Dr. Leopoldo Molinari Balbuena	Dr. Flavio Guadalupe Guija
Dr. Victor M. Tejada	Dr. Angel Luis Morales
Dr. Ramon Vargas Machuca	Dr. Victor Narvaez Obezo
Dr. Juan A. Werner	Dr. Humberto Valderrama Delgado
Dr. Pedro Zevallos Alegre	

Dr. Ovidio Garcia Rosell, who was elected the first president of the chapter, is also Governor of the College for Peru.

The Peru Chapter is the 23rd chapter of the American College of Chest Physicians, and the most recent one to be organized in South America.

## Tenth Annual Meeting at Chicago

At the Tenth Annual Meeting of the College held in Chicago, June 10-12, 1944, the following papers were presented by physicians from the other American countries:

"Bronchoscopy in Pulmonary Tuberculosis," Dr. Ricardo Tapia, Mexico City.  
"Extrapleural Pneumothorax (Six Years' Experience)," Dr. Donato G. Alarcon, Mexico City.  
"Teaching of Clinical Tuberculosis," Dr. Ovidio Garcia Rosell, Lima, Peru.  
"Tuberculosis Control in Mexico," Dr. Ismael Cosio Villegas, Mexico City.  
"Tuberculosis Control in Venezuela," Dr. Jose Ignacio Baldo, Caracas, Venezuela.

The following papers were submitted and read by title:

"Diabetes and Tuberculosis," Dr. Affonso MacDowell Filho, Rio de Janeiro, Brazil.  
"Primary Infection of Tuberculosis," Dr. Carlos Arboleda Diaz, Bogota, Colombia.  
"Thoracoplasty Under Spinal Anesthesia," Dr. Octavio Bandala, Mexico City.  
"Value of the Study of Bacilli in Minimal Lesions of Pulmonary Tuberculosis," Drs. H. Orrego Puelma, and Guillermo Grebe Hernandez, Santiago, Chile.

Physicians from the Latin American countries who attended the Tenth Annual Meeting of the College in Chicago were:

*Chile:* Dr. Enrique Garcia Suarez, Dr. Julio Urrutia, Santiago.

*Mexico:* Drs. Donato G. Alarcon, Manuel Alonso, Octavio Bandala, Jesus Maria Benitez, Antonio Cardenas Macias, I. Cosio Villegas, Miguel Jimenez, Magin Puig Solanes, Jose Angel Raynal, Leonardo Silva-E., Guillermo Solorzano, Ricardo Tapia Acuna, Mexico City.

*Peru:* Dr. Ovidio Garcia-Rosell, Lima.

*Venezuela:* Dr. Gutsavo Romero, Caracas.

*Puerto Rico:* Dr. Rafael Velazquez, San Juan.

Dr. Chevalier L. Jackson, Philadelphia, chairman of the Council on Pan American Affairs, presented a report of the Council at the administrative session of the Chicago meeting, held at the Stevens Hotel on June 11, 1944. This report was published in the September-October, 1944 issue of "Diseases of the Chest" (Vol. X, No. 5, pp. 448-449).

The present members of the Council on Pan American Affairs are:

*The United States and Canada:*

Dr. Chevallier L. Jackson, Chairman, Philadelphia, Pennsylvania

Dr. Leo Eloesser, Vice-Chairman, San Francisco, California

Dr. Paul H. Holinger, Secretary, Chicago, Illinois

Dr. J. A. Couillard, Mont Joli, Quebec, Canada

Captain Robert E. Duncan, U. S. N., Washington, D. C.

Dr. James S. Edlin, New York City

Dr. Herman E. Hilleboe, Washington, D. C.

Major General S. U. Marietta, U. S. A., Washington, D. C.

Dr. Edgar Mayer, New York City

Dr. Richard H. Overholt, Brookline, Mass.

Dr. J. Winthrop Peabody, Washington, D. C.

Dr. Arthur Q. Penta, Schenectady, N. Y.

Dr. J. C. Placak, Cleveland, Ohio

*Regents representing the Latin American countries:*

Dr. Gumersindo Sayago, Cordoba, Argentina

Dr. Affonso MacDowell, Rio de Janeiro, Brazil

Dr. Antonio Navarrete, Havana, Cuba

Dr. Donato G. Alarcon, Mexico City, Mexico

Dr. J. Rodriguez, Pastor, Santurce, Puerto Rico

*Governors representing the Latin American countries:*

Dr. Raul F. Vaccarezza, Buenos Aires, Argentina

Dr. H. Orrego Puelma, Santiago, Chile

Dr. Carlos Arboleda Diaz, Bogota, Colombia

Dr. Octavio Rivero Partagas, Havana, Cuba

Dr. Juan Tanca Marengo, Guayaquil, Ecuador

Dr. I. Cosio Villegas, Mexico City, Mexico

Dr. Amadeo Vicente Mastellari, Panama City, Rep. of Panama

Dr. Ovidio Garcia Rosell, Lima, Peru

Dr. Jacob Smith, San Juan, Puerto Rico

Dr. Fernando Domingo Gomez, Montevideo, Uruguay

Dr. Jose Ignacio Baldo, Caracas, Venezuela

Mr. Murray Kornfeld, Executive Secretary, Chicago, Illinois

## Members of the American College of Chest Physicians in the Latin American Countries

### Argentina

#### Buenos Aires

Albertal, Manual  
 \*Bence, Alvaro E.  
 \*Centrangolo, Antonio August  
 \*Lentino, Aguires S.  
 \*Leston, Jose Maria  
 \*Palacio, Julio  
 Paso, Juan Roberto  
 \*Peroncini, Jose  
 Pollitzer, Guido  
 \*Rey, Juan Carlos  
 Vaccarezza, Oscar A.  
 Vaccarezza, Raul F.  
 Vaccarezza, Rodolfo, Agustin

#### Cordoba

\*Allende, Juan M.  
 \*Becerra, Hector  
 \*Caeito, Agustin  
 \*Chattas, Alberto  
 \*Contreras, Carlos H.  
 de Villafane Lastra, Tomas  
 \*Dobric, Leonardo L.  
 \*Ferrer Moratel, Carlos  
 Sayago, Gumersindo  
 \*Wolaj, Isaac F.

### Brazil

#### Belem (Para)

\*Campos, Epilago de

#### Fortaleza (Ceara)

\*Octavio Lobo, Joao

#### Lapa (Parana)

\*Serebrenick, Abrahao

#### Maria (Sao Paulo)

Coriolano de Carvalho, J.

#### Niteroi (Est. do Rio)

\*da Silva Vigella, Joao

#### Porto Alegre (Rio Grande do Sul)

\*Faria, Gaspar

#### Recife (Pernambuco)

\*Bomfim de Sousa, Agenor

#### Rio de Janeiro, D. F.

\*Arantes de Almeida, Luis  
 Amorim, Aresky

#### Rio de Janeiro (cont'd.)

\*Brasil, Ari  
 \*Castello Branco, Joao Martins  
 \*Carvalho Ferreira, Jose  
 Fernandes, Reginaldo  
 \*Gomes, Olimpio  
 \*Jouval, Henri Eugene  
 Libanio, Samuel  
 MacDowell, Affonso  
 \*MacDowell Filho, Affonso  
 \*Marchese, Paulo  
 \*Pereira, Roberto  
 \*Travassos, Galdino

#### Salvador (Bahia)

\*Silveira, Jose

#### Sao Paulo

Ferreira, Clemente

#### Victoria (Espirito Santo)

\*Neves, Jaime dos santos

### Chile

#### Santiago

Orrego Puelma, Hector

### Colombia

#### Bogota (Cundinamarca)

Arboleda Diaz, Carlos  
 \*Ceballos, Velez, Julio

#### Cali (Valle)

\*Hernandez Rengifo, Ramon

#### Medellin (Antioquia)

\*Medina Mejia, Edmundo  
 Mejia C., Rafael J.

### Costa Rica

#### Provincia Cartagos

Blanco Cervantes, Raul

\*Associate Members.



## Cuba

*Havana*

Aldereguia, Gustavo  
 Antonetti, Alfredo  
 Castillo, Juan J.  
 \*Codinach, Abelardo  
 Farinas, Pedro L.  
 \*Garcia Arrazuria, Jose  
 \*Gomez, Ortega, R. J.  
 \*Hernandez Gonzalo, Pedro  
 \*Llambes Estrada, Juan J.  
 \*Mendoza, Rene G.

*Havana (Cont'd.)*

Menendez, Francisco J.  
 \*Meneses Manas, Rafael  
 \*Moreno, Rufino M.  
 Navarrete, Antonio  
 \*Nogueira Rivero, Pedro  
 Rivero Partagas, Octavio  
 \*Rivero Castro, Eduardo  
 \*Sanchez Acosta, Ricardo  
 \*Suarez de Bustamente, Orfillo  
 \*Valledor Campos, Teodosio

## Dominican Republic

*Trujillo*

\*Moscoso, Juan M.

## Ecuador

*Guayaquil*

Meta M., Julio C.  
 Freile Nunez del Arco, J.  
 Higgins, Jorge

*Guayaquil (cont'd.)*

\*Ortega Moreira, Eduardo  
 Tanca Marengo, Juan  
 Pareja Coronel, Armando

## Guatemala

*Guatemala City*

DiNepi, Alberto  
 Coronado Iturbide, Enrique

## Haiti

*Port-au-Prince*

Denize, Auguste  
 Roy, Louis

## Mexico

*Guadalajara (Jalisco)*

\*de Guevara, Alberto Ladron  
 \*Gomez Alvarez, Salvador

*Hermosillo (Sonora)*

Madrid, Gaston S.

*Mexico City (D. F.)*

Alarcon, Donato G.  
 \*Alegria Garza, Pedro  
 \*Alonso, Miguel  
 Ayala Gonzalez, Abraham  
 Bandala, Octavio  
 \*Benitez, Jesus M.  
 Cosio Villegas, Ismael  
 Gonzalez Mendez, Julian  
 Jimenez Sanchez, Miguel  
 \*Katz Avrutsky, Fernando  
 \*Lozano Rocha, Aradio  
 Martinez Carrouche, Mario

*Mexico City (cont'd.)*

\*Martinez de Alva, Hector  
 \*Raynal, Jose A.  
 \*Rebora, Fernando  
 \*Rubio Palacios, Horacio  
 Tapia Acuna, Ricardo

*Torreon (Coahuila)*

\*Sanchez y Sanchez, J. T.  
 \*Coghlan, Jorge

*Tamaulipas (N. Laredo)*

\*Gonzalez Saldana, Lorenzo

*Tampico (Tamaulipas)*

Cellis Baltazar, Ramon  
 Gil, Rodolfo

*Vera Cruz*

Diaz Estua, Manuel

## Nicaragua

*Managua*

\*Vargas L., Rene

## Panama

*Panama City*

Gonzalez Ruiz, Sergio  
 Mastellari, Amadeo Vicente

*Panama City (cont'd.)*

Nunez, Jose Maria  
 Sosa, Agustin A.

\*Associate Members.

## Peru

*Callao*

Hubner, Luis E.

*Lima*

\*Cachay Diaz, Horacio  
 \*del Castillo, Roman  
 Escudero Villar, Juan M.  
 Espinoza Galarza, Maximo  
 Garcia-Rosell, Ovidio  
 Gonzalez, Dagoberto E.  
 \*Guadalupe, Andres Flavio  
 Macchiavello, Juan A.

*Lima (cont'd.)*

Molinari, Leopoldo  
 \*Morales, Angel Luis  
 \*Narvaes, Victor  
 Pastor, Mario  
 \*Sarmiento, Jorge Rene  
 Tejada, Victor Manuel  
 \*Valderrama, Humberto G.  
 Vargas Machuca, Ramon  
 Werner, Juan Alfredo  
 \*Zevallos Alegre, Pedro

## Puerto Rico

*Aibonito*

Amadeo, Jose A.

*Arecibo*

Zapata, Miguel Antonio

*Barranquitas*

Sullivan, Patrick J.

*Bayamon*

Velazquez, Rafael

*Caguas*

Marrero Otero, Hector  
 Santiago, Manuel

*Fajardo*

Reinhardt Valcourt, A. V.

*Hato-Rey*

Fernandez Garcia, Eugenio  
 Garcia, David E.

*Lajas*

Acosta, Guillermo P.

*Mayaguez*

Guzman, Manuel Jr.  
 \*Perea, Alfredo A.  
 Perea, Luis Roberto

## Uruguay

*Montevideo*

Gomez, Fernando D.  
 Purriel, Pablo  
 Soto Blanco, Juan

*Ponce*

Godreau, Miguel F.  
 Hess, Charles Robert  
 Passalacqua, Luis A.  
 Santos, Leandro

*Rio Piedras*

Alonso, Miguel  
 Colon, Ramon T.  
 \*Franco Soto, Jose Angel  
 Garcia de Quevedo, Luis  
 Reyes, Felix M.  
 Soto Ramos, Jose  
 \*Tortorelli, August S.

*San Juan*

Font, Juan H.  
 Smith, Jacob

*Santurce*

Acosta-Velarde, A.  
 Arruza Perez, Juan  
 Marchand, Angel M.  
 Pou, Jaime Francisco  
 Rodriguez Pastor, Jose  
 Velazquez, Federico

## Venezuela

*Caracas, D. F.*

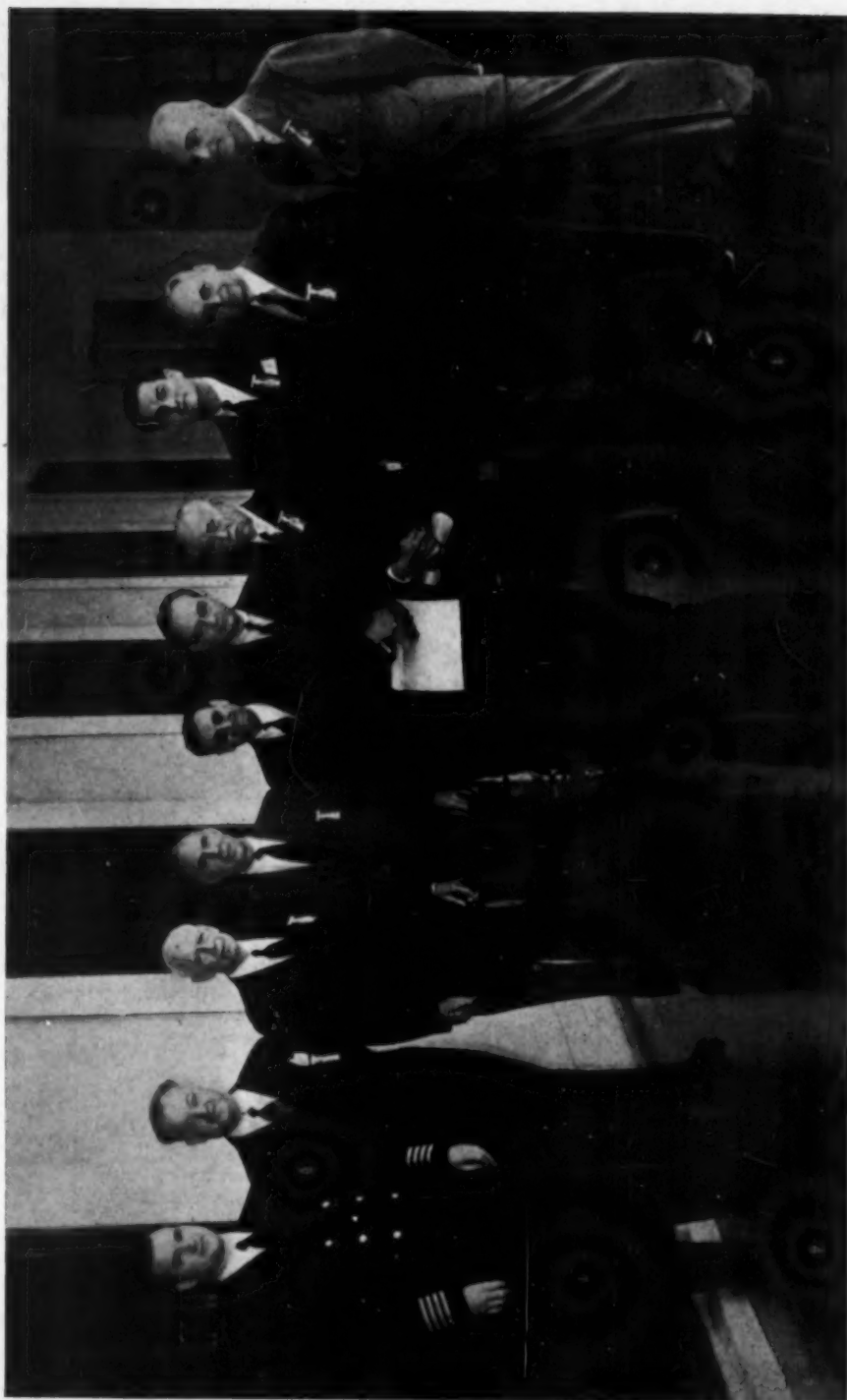
Baldo, Jose Ignacio  
 Fernandez Ruiz, Rafael

## Applications Pending

Boettner, Juan Max, Asuncion, Paraguay  
 Gines, Angel R., Asuncion, Paraguay  
 Hernandez, Ramon, Palmira, Colombia  
 Hernandez Asch, Victor Manuel, San Jose, Costa Rica  
 Iturbe, Pedro M., Maracaibo, Venezuela  
 Medina, Edmundo, Medellin, Colombia  
 Saye Sempere, Luis, Buenos Aires, Argentina  
 Vallarino, Luis Antonio, Panama City, R. P.  
 Vargas Sivila, Enrique, Sucre, Bolivia  
 Zamorano, Gilberto V., Valparaiso, Chile

\*Associate Members.

Delegates from the United States of America attending the Sixth Pan American Congress Against Tuberculosis (ULAST),  
Havana, Cuba, January 15-21, 1945.



(Left to right): Dr. Herman E. Hilleboe, Washington, D. C.; Dr. J. Winthrop Peabody, Washington, D. C.; Dr. Kendall Emerson, New York, N. Y.; Dr. John Rice, New York, N. Y.; Mr. Murray Kornfeld, Chicago, Illinois; Dr. Chevallier L. Jackson, Philadelphia, Pa.; Dr. Charles Hatfield, Philadelphia, Pa.; Dr. Julius L. Wilson, New Orleans, La.; Mr. Fred Hopkins, New York, N. Y.; and Dr. Cameron St. C. Guild, New York, N. Y.

## Sixth Pan American Congress on Tuberculosis

*"Sexto Congreso Pan-americano de la Tuberculosis"*  
*Union Latino-Americano de Sociedades de*  
*Tisiologia (ULAST)*

HAVANA, CUBA, JANUARY 15-21, 1945

More than 100 delegates from 18 countries attended the Sixth Pan-American Congress on Tuberculosis at Havana, Cuba, January 15-21, 1945. The Congress was opened on Monday night, January 15, at a formal session held at the Hotel Nacional. Dr. Juan J. Castillo, of Havana, President of the Congress, presided at the session and he introduced Dr. Ramon Grau San Martin, President of the Republic of Cuba, who, earlier in the evening, had given a formal reception at the presidential palace for the visiting delegates to the Congress. The Ministers of State were introduced and a representative from each country made a brief address. During the inaugural session the delegates were entertained by the Choral Society of Havana, founded in 1931 by the Director, Maria Munoz de Quevedo.

The scientific session was opened Tuesday morning, January 16, and the entire day was given over to reports of "Posicion de la Vacuna B.C.G. en la Profilaxis de la Tuberculosis," by delegates from the various countries and the session ran well into the night. The discussion was led by Captain Roy S. Rosenthal, U.S.A., Chicago, Illinois (by invitation).

The first part of the program on Wednesday, January 17, was given over to the reports of delegates from the different countries on their experiences with various cases of tuberculosis. In the second part of the program, the following papers were presented:

"Lesiones iniciales observadas en la seccion de epidemiologia I. de Tisiologia de Montevideo," Dr. Pablo Purriell, (F.C.C.P., Montevideo, Uruguay.

"Formas de iniciacion en la tuberculosis pulmonar," Dr. Fernando D. Gomez, (F.C.C.P.), Montevideo, Uruguay.

"Supuraciones tuberculosas extra-pulmonares afistuladas en traquea y en bronquio," Dr. Leo Eloesser, (F.C.C.P.), San Francisco, California.

"El principio sintomatico en Mexico, de la tuberculosis pulmonar," Dr. Ermilo Esquivel Medina, Mexico City, D. F.

The first part of the program on Thursday, January 18, was taken up with a scientific program in which the following papers were presented:

"Tuberculosis bronquial, aspecto broncografico," Drs. Pedro L. Fariñas, (F.C.C.P.), Pedro Hernandez, I. Veulens, and Eduardo Rivero, Havana, Cuba.

"Sobre la etiologia tuberculosa de algunas hemodistrofias," Dr. Gustavo Pittaluga, Havana, Cuba.

"Metodos que deben implantarse para evitar la difusion y aumento de la tuberculosis durante la guerra y l apost-guerra," Dr. Octavio Bandala, (F.C.C.P.), Mexico City, D. F.

"Algunos aspectos del control de la tuberculosis en Estados Unidos en tiempo de guerra," Dr. Herman E. Hilleboe, (F.C.C.P.), Washington, D. C.

"Organizacion de la lucha antituberculosa," Drs. Gumersindo Sayago, (F.C.C.P.), Cordoba, Argentina; Fernando D. Gomez, (F.C.C.P.), Montevideo, Uruguay.



The following papers were presented at the evening session:

- "Un nuevo medio de cultivo para el mycobacterium tuberculosis," Dr. Jorge A. Higgins, (F.C.C.P.), Guayaquil, Ecuador.
- "La silicosis en Mexico," Dr. Ubaldo Roldan, Mexico City, D. F.
- "La infeccion tuberculosa y el sistema reticulo-endotelial," Dr. Gustavo Pittaluga, Havana, Cuba.
- "Anatomia relacionada de los bronquios y pulmones del punto de vista broncológico (Proyecciones)," Dr. Chevalier L. Jackson, (F.C.C.P.), Philadelphia, Pennsylvania.

The subject for the session on Friday, January 19, was "Sistematica del Tratamiento de las Cavernas, Relatos o Ponencias," and the following papers were presented:

- "Patogenia de la caverna tuberculosa, y sistematica de su tratamiento," Dr. Gumersindo Sayago, (F.C.C.P.), Cordoba, Argentina.
- "Neumolisis intrapleurales y tratamiento de la caverna tuberculosa," Dr. Aradio Lozano, Mexico City, D. F.
- "Tratamiento de la caverna por el neumotorax extrapleurales," Dr. Donato G. Alarcon, (F.C.C.P.), Mexico City, D. F.
- "La toracoplastia en la sistematica del tratamiento de las cavernas," Drs. A. Alonso Vial, Luis Vidal, Cesar Borquez, Santiago, Chile.
- "La frenoparalisis en la sistematica del tratamiento de las cavernas," Drs. Alonso Vial, Alfonso Sinm, H. Gajardo, Santiago, Chile.
- "La toracoapicolisis en la sistematica del tratamiento de las cavernas," Drs. Tomas de Villafane, (F.C.C.P.), and Domingo S. Babini, Cordoba, Argentina.
- "Contribucion al estudio del tratamiento quirurgico de la caverna, con referencias al estado de su comunicacion bronquial," Drs. Carlos Ferrer Moratel, and Hector Becerra Oliva, Cordoba, Argentina.
- "Tratamiento de la caverna tuberculosa," Drs. Horacio Rubio Palacios, and Jesus M. Benitez, Mexico City, D. F.

This session was continued on Saturday, January 20, at which time the following papers were presented:

- "El factor anestesia en la sistematica del tratamiento quirurgico de las cavernas," Drs. Alonso Vial, Jaime Cerutti, Cesar Borquez, and H. Gajardo, Santiago, Chile.
- "Fisiologia patologica de la caverna y su tratamiento," Dr. Carlos Jimenez Caballero, Mexico City, D. F.
- "Contribucion al estudio del tratamiento de las cavernas residuales del colapso medico o quirurgico por la broncoscopia," Drs. Tomas de Villafane, (F.C.C.P.), Roger Lanza, and Domingo S. Babini, Cordoba, Argentina.
- "Clausura de la caverna tuberculosa en los neumotorax adheridos por sinfisis," Dr. Fernando Katz, Mexico City, D. F.
- "Significado, intencion y valor de la pre-toracoplastia periferica," Drs. Alonso Vial, Alfonso Humeres, and O. Vigorena, Santiago, Chile.
- "Resultados alejados de la frenicectomia. Consideraciones sobre el mecanismo de curacion," Dr. Carlos Ferrer Moratel.

This subject was also discussed by a group of physicians from Havana, Cuba, many of whom are Fellows of the College.

A special session of the Congress was held at the University of Havana, School of Medicine, Saturday night, January 20, which was presided



**OVIDIO GARCIA ROSELL, M.D., F.C.C.P.**  
*President-Elect, Seventh Pan-American  
Congress on Tuberculosis  
Lima, Peru*

over by Dr. Clemente Inclan, Dean of the University. The following program was presented:

"Conferencia sobre la vida del sabio Albert Calmette," Dr. Abelardo Saenz, delegado oficial del Instituto Pasteur de Paris.

"Conferencia por el Dr. Alfredo Antonetti, (F.C.C.P.)," Profesor Titular de la Catedra de Tuberculosis de la Universidad.

During the Congress, luncheons were given by various groups at the Preventorium "Marti," the Professional Club and at Rio Cristal. The Congress was concluded with a formal banquet held at the Hotel Sevilla Biltmore. Preceding the banquet a reception was given by Dr. Juan J. Castillo, President of the Congress.

On Saturday afternoon, January 20, a luncheon was given by the Chilean delegates in honor of Dr. Gumersindo Sayago, Cordoba, Argentina, and on Monday night, January 22, a cocktail party and dinner was given at the National Capitol Building by the Mexican delegation to the Cuban physicians who sponsored the Congress. Many private parties were given by Cuban physicians during the Congress and a great deal of time was devoted to social and good-will activities.

**LUNCHEON MEETING**  
**Officials, Members and Invited Guests, American College of Chest Physicians,**  
**Hotel Nacional, Havana, Cuba, Tuesday, January 16, 1945.**



*Speakers Table (left to right):* Drs. Abelardo Saenz, Montevideo, Uruguay; Juan M. Boettner, Asuncion, Paraguay; Chevalier L. Jackson, Philadelphia, Pa.; H. Orrego Puelma, Santiago, Chile; Aresky Amorim, Rio de Janeiro, Brazil; Gumersindo Sayago, Cordoba, Argentina; Juan J. Castillo, Havana, Cuba; Antonio Navarrete, Havana, Cuba; J. Winthrop Peabody, Washington, D. C.; Julius L. Wilson, New Orleans, La.; Donato G. Alarcon, Mexico City, Mexico; Leo Eloesser, San Francisco, Calif.; Fernando D. Gomez, Montevideo, Uruguay; Ovidio Garcia Rosell, Lima, Peru; Carlos Arboleda Diaz, Bogota, Colombia; Luis Saye, Buenos Aires, Argentina; J. Rodriguez Pastor, Santurce, Puerto Rico.—*Standing:* Mr. Murray Kornfeld, Chicago, Illinois.



It was voted to hold the Seventh Pan-American Congress of Tuberculosis at Lima, Peru in 1947. Dr. Ovidio Garcia Rosell, Governor of the American College of Chest Physicians for Peru, and President of the Peruvian Chapter of the College, was elected President of the Congress. The themes for the next Congress are to be as follows:

- I. "Investigacion de la Tuberculosis en el aparentemente sano; tecnica, diagnostico, terapeutica y pronostico."
- II. "Traqueo bronquitis tuberculosa."
- III. "Proteccion economico social del Tuberculoso."

## College Activities at the Havana Congress (ULAST)

### Luncheon Meeting

On Tuesday, January 16, a luncheon meeting sponsored by the Council on Pan-American Affairs of the College was held at the Hotel Nacional and was attended by approximately 100 members and guests of the American College of Chest Physicians. Dr. Antonio Navarrete, Havana, Cuba, Regent of the College, presided at the meeting and all of the Regents and Governors of the College from the other American countries were introduced. Each official discussed the College program being conducted in his respective country, and urged the cooperation of all of the countries in the Western Hemisphere in the fight against tuberculosis and for the interchange of scientific information relative to the diagnosis and treatment of other chest diseases. Dr. Chevalier L. Jackson, Philadelphia, Chairman of the Council on Pan-American Affairs, outlined the work already accomplished by the Council and brief talks along the same lines were made by Dr. Leo Eloesser, San Francisco, Vice-Chairman of the Council; Dr. J. Winthrop Peabody, Washington, D. C., Regent of the College; and Dr. Herman E. Hilleboe, Governor of the College for the U. S. Public Health Service. Dr. Julius L. Wilson, New Orleans, Louisiana, President of the American Trudeau Society was introduced and in his talk he stressed the need for close cooperation among all of the American republics. A photograph of the speakers is shown on page 186.

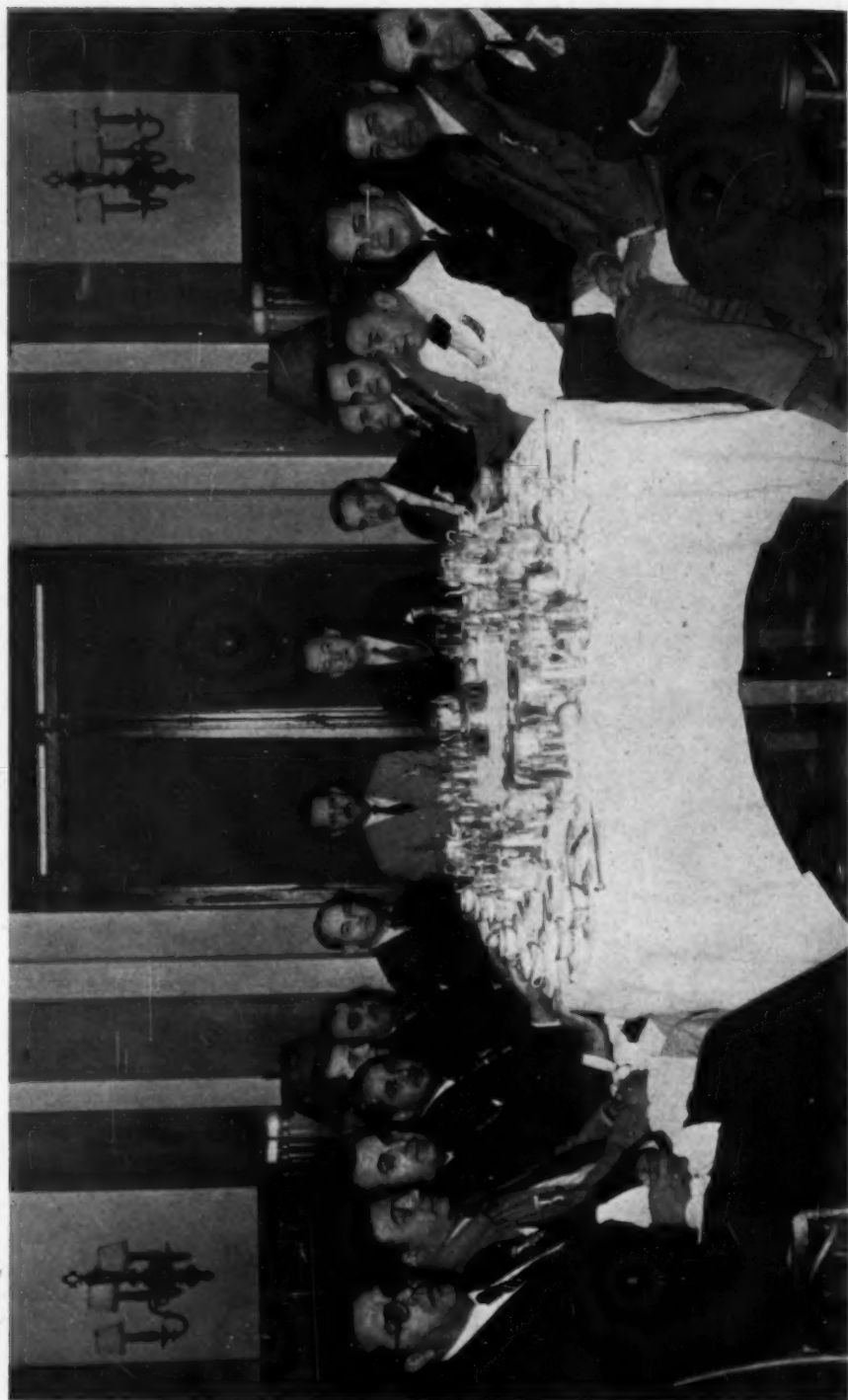
### Breakfast Meeting

On Saturday, January 20, a breakfast meeting was held at the Hotel Nacional, Havana, Cuba, sponsored by the Council on Pan-American Affairs of the College. This meeting was attended by the Regents and Governors of the College from the Latin American countries. Plans were discussed for the organization of College chapters in those countries which do not already have such chapters, as well as the increasing of College membership in those countries where chapters now exist. Dr. Chevalier L. Jackson outlined the method of organization followed in the past and officials of the College were authorized to proceed with the organization of College chapters in their respective countries. It was agreed that one chapter be formed for the Central American countries and Dr. Amadeo V. Mastellari, Governor of the College for the Republic of Panama, was authorized to organize this chapter. Conforming with the wishes expressed by Dr. Affonso MacDowell, Regent of the College for Brazil, plans were discussed for the organization of separate chapters of the College in the more populous states of Brazil. The organization



## BREAKFAST MEETING

Council on Pan American Affairs, American College of Chest Physicians  
Hotel Nacional, Havana, Cuba, Saturday, January 20, 1945.



(Left to right): Drs. Aresky Amorim, Rio de Janeiro, Brazil; Ovidio Garcia Rosell, Lima, Peru; Fernando D. Gomez, Montevideo, Uruguay; Carlos Arboleda Diaz, Bogota, Colombia; Herman E. Hilleboe, Washington, D. C.; Amadeo Mastellari, Panama City, Rep. of Panama; Chevallier L. Jackson, Philadelphia, Pa.; Antonio Navarrete, Havana, Cuba; J. Winthrop Peabody, Washington, D. C.; Leo Eloesser, San Francisco, California; J. Rodriguez Pastor, Santurce, Puerto Rico; Juan M. Moscoso, Trujillo, Dominican Republic; Gumerindo Sayago, Cordoba, Argentina; H. Orrego Puelma, Santiago, Chile; Donato G. Alarcon, Mexico City, Mexico; and Mr. Murray Kornfeld, Chicago, Illinois.

of a chapter of the College in Chile will be undertaken by Dr. Hector Orrego Puelma, Governor of the College for Chile, who has since been touring the United States. Dr. Carlos Arboleda Diaz, Governor of the College for Colombia, expressed his intention to take the necessary steps to organize a chapter of the College in Colombia and the Governors of the College for Ecuador and Venezuela will be notified of the action of the conference and they will be encouraged to proceed also with the organization of College chapters in their respective countries. Bolivia and Paraguay are also being organized along these same lines. Dr. Juan Moscoso will take steps to organize a chapter of the College in the Dominican Republic. With the formation of these chapters and those already in existence, there will be a complete chain of College chapters comprising all the countries in the Western Hemisphere.

Dr. Antonio Navarrete, Regent of the College for Cuba, presided at this conference also. A photograph of the group is shown on page 188.

### Comments by the Governor of the College from Chile

The various activities organized by the American College of Chest Physicians immediately after the Sixth Pan American Congress on Tuberculosis, held at Havana, Cuba, January 15-21, 1945, are of paramount importance and it will serve to link the chest specialists even closer.

The solid organization of the College in Latin America which has been achieved through the efforts of its officials and its excellent journal with its Spanish summaries of important articles, added to the work being done by the different Boards, Governors and Presidents of Chapters spread throughout the Americas, have given this international society its well-deserved prestige.

The members of the American College of Chest Physicians are proud of their designation as "Fellows," symbolized by the effigy of Laennec engraved on the College Key.

I hope that the already close and friendly cooperation between the Latin American and North American Chapters of the College will be benefited from the exchange of visits of outstanding physicians from Latin America to North America, and vice versa.

Furthermore, the translation into Spanish and Portuguese of the best English publications and, conversely, from these languages into English, will fulfill a necessity and add a magnificent tool to the field of co-operation.

We, American chest physicians, feel that the good neighbor policy is no longer just a phrase, but that it is a tangible fact, further crystallized last January in Havana.

Finally, I wish to express my deep gratefulness to Drs. J. Winthrop Peabody, Chevalier L. Jackson, Antonio Navarrete, Paul H. Holinger and to the others who so generously entertained us in their respective cities. I also want to thank Mr. Murray Kornfeld, the indefatigable and most able Executive Secretary of the College for those unforgettable days spent in Chicago.

Dr. Hector Orrego Puelma, F.C.C.P.  
Professor of Tuberculosis,  
University of Chile.  
Governor of the American College  
of Chest Physicians for Chile.

## Latin American Physicians Visiting in the United States

### Miami, Florida

A number of the physicians who attended the Congress at Havana flew to Miami en route to Washington, D. C. and many of them traveled to other parts of the country. During their stay in Miami a number of the physicians were entertained by Dr. M. J. Flipse, Governor of the College for Florida and by Dr. Alexander Libow, Miami Beach.

### Washington, D. C.

A luncheon for the visiting chest specialists from Latin America was given at the Mayflower Hotel, January 27, 1945. The luncheon was sponsored by the Health and Sanitation Division of the Institute of Inter-American Affairs, with Maj. Gen. G. C. Dunham, President of the Institute, as host. The luncheon was attended by the following:

Maj. Gen. George C. Dunham, President, Institute of Inter-American Affairs.

Dr. Hector Orrego Puelma, Professor of Tuberculosis, University of Chile.

Dr. Armando Alonso Vial, Professor of Thoracic Surgery, University of Chile.

Dr. Pedro Renard Artigas, Chief, Tuberculosis Service at Servicio Medico Nacional de Empleados, Santiago, Chile.

Dr. Rolando Castanon Salinas, Exec. Vice-Pres. Servicio Medico Nacional de Empleados, Santiago, Chile.

Dr. Fernando Gomez, Director of the Institute for the Study of Tuberculosis of the Faculty of Medicine, Montevideo, Uruguay.

Dr. Angel Gines, Professor of Tuberculosis, University of Asuncion, Paraguay.

Dr. Tomas Antonio de Villafane, Former Professor of Communicable Diseases of the University of Cordoba—also former Commissioner of Health, Cordoba, Argentina.

Dr. Andres P. H. Degoy, Former Director of Children's Medical Service of the Rawson Hospital, Cordoba, Argentina.

Dr. Carlos Ferrer, Former Professor of Tuberculosis, University of Cordoba, Argentina, also former Director of the Anti-Tuberculosis Clinic of Alta Gracia.

Senor Fernando Ortuzar, Secretary, Chilean Embassy.

Senor Fausto Soto, Secretary, Chilean Embassy.

Senor Yriart, First Secretary, Uruguayan Embassy.

Dr. Herman E. Hilleboe, Director, Tuberculosis Division, U. S. Public Health Service.

Dr. J. Winthrop Peabody, Past President, American College of Chest Physicians.

Dr. Walter A. Bloedorn, Dean, George Washington University Medical School

Mr. James H. Wright, Chief, Division of North and West Coast Affairs, Dept. of State.

Colonel Esmond Long, M.C., Deputy Chief, Professional Administration Service, Office of the Surgeon General.

Colonel Thomas B. Turner, Director of Civil Public Health Division, Office of the Surgeon General.



Dr. Charles E. Shepard, Director, Training Division, Institute of Inter-American Affairs.

Dr. John D. Yeagley, Assistant Director, Division of Health and Sanitation.

Colonel Harold B. Gotaas, Director, Division of Health and Sanitation.

Dr. Clark H. Yeager, Chief, Medical Section, Division of Health and Sanitation.

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A number of the visiting physicians were given a dinner at the Cosmos Club, Washington, D. C., by Dr. J. Winthrop Peabody, F.C.C.P., Regent of the College.

### Philadelphia, Pennsylvania

Dr. Fernando Gomez and Dr. Abelardo Saenz, of Montevideo, and Dr. Angel Ginés of Asunción, Paraguay, visited Philadelphia for several days after leaving Washington. They visited the Henry Phipps Institute, the Temple University Hospital and other institutions. Subsequently, they proceeded to New York a day earlier than scheduled, in order to attend the meeting of the New York State Chapter of the American College of Chest Physicians at the Hotel Biltmore on February 2nd, 1945. During the subsequent portion of their stay in New York they were sponsored by Dr. Kendall Emerson.

Dr. Hector Orrego Puelma of Santiago, Chile, visited Philadelphia on his way to Chicago. He attended several sessions of the Postgraduate course in Broncho-Esophagology at the Temple University Hospital, and was a guest of honor at the closing luncheon. He also visited the Henry Phipps Institute.

Dr. Armando Alonso Vial and Dr. Borquez Vial of Santiago, Chile, and Dr. Carlos Ferrer of Alta Gracia, Argentina, spent several days in Philadelphia during the month of February. They were received at the Henry Phipps Institute by its President, Dr. Charles J. Hatfield, attending the weekly conference at which Dr. Frank Craig presided, and discussing research problems of tuberculosis with Dr. Max Lurie. They visited the Chevalier Jackson Bronchoscopic Clinic of the Temple University Hospital and participated in the weekly Chest Conference at the same institution, presided over by Dr. W. Edw. Chamberlain. They were received at the Offices of the Philadelphia Tuberculosis and Health Association and visited a center for the survey of chest conditions among civilian employees of the Philadelphia Navy Yard. They visited the Department of Diseases of the Chest of the Jefferson Hospital at 238 Pine Street with Dr. Sokoloff. Dr. David Cooper showed them the Tuberculosis Wards of Philadelphia General Hospital and also took them to visit the Pennsylvania Hospital. An interview with Dr. Robin Buerki, Dean of the Graduate School of Medicine of the University of Philadelphia was arranged, so that the Latin American physicians could discuss with him problems of mutual interest in undergraduate and graduate medical education. Dr. Alonso, Dr. Borquez and Dr. Ferrer left Philadelphia for Baltimore where their program was to be arranged by Dr. Rienhoff.

Drs. Degoy and Villafañe Lastra are expected to visit Philadelphia.



## Boston, Massachusetts

The following physicians spent ten days in Boston with Dr. Richard H. Overholt, First Vice-President of the American College of Chest Physicians: Drs. Armando Alonso Vial, Santiago, Chile; Carlos Ferrer, Cordoba, Argentina; Hector Becerra, Cordoba, Argentina; and Cesar Borquez, Santiago, Chile.

Five days were spent in Boston by Drs. Ugo Pinheiro Guimaraes, Rio de Janeiro and Marcio Bueno, Rio de Janeiro, Brazil.

## Chicago, Illinois

A dinner was given at the Palmer House, Chicago, on February 13 in honor of Dr. Hector Orrego Puelma, Professor of Tuberculosis, University of Chile, and Governor of the American College of Chest Physicians for Chile. The dinner was attended by the following guests:

Drs. Eduardo Cassorla L., Santiago, Chile; Manuel Flores Castro, Guadalajara, Mexico; Jose Antonio Saldana, San Salvador, El Salvador; Gilberto Zamorano, Valparaiso, Chile; William E. Adams, Richard Davison, Jerome R. Head, Paul H. Holinger, Minas Joannides, Aaron Keinigsberg, Edwin Levine, Julius B. Novak, Charles K. Petter, Ralph G. Rigby, Henry C. Sweany, Willard Van Hazel, Major Louis J. Miller, and Mr. Murray Kornfeld, Chicago, Illinois.

Dr. Paul H. Holinger, Secretary-Treasurer of the College, presided at the meeting and introduced Dr. Orrego, guest of honor, who gave an inspired talk on the College program in the Latin American countries. In reply, Dr. Sweany praised the fine work of Dr. Orrego and pointed out that he was one of the eminent teachers of tuberculosis in all of the Americas. Brief talks were also made by Drs. Zamorano, Cassorla, Saldana, Castro, Miller, Head and Joannides.

## Minneapolis, Minnesota

Dr. Hector Orrego Puelma, Santiago, Chile, spent several days in Minneapolis. During his stay in that city he was sponsored by Dr. Jay Arthur Myers, President of the American College of Chest Physicians. Dr. Orrego was very much impressed with the student health program and with the facilities for the care and treatment of tuberculosis in Minneapolis.

## St. Louis, Missouri

A number of the members of the College and other physicians from the Latin American countries have arranged to visit the Barnes Hospital at St. Louis. During their stay in St. Louis, these physicians will be sponsored by Dr. Evarts A. Graham, Professor of Surgery, Washington University.

## San Francisco, California

At San Francisco the visiting physicians are being sponsored by Dr. Leo Eloesser, Vice Chairman of the Council on Pan American Affairs of the College. After leaving San Francisco, many of the physicians will spend a few days visiting in Los Angeles and then return to their respective countries from the west coast; others are arranging to return via Miami.

## COLLEGE NEWS

## 1945 College Meeting Cancelled

In compliance with the request of the Office of Defense Transportation, the Executive Council of the American College of Chest Physicians voted to cancel the annual meeting of the College scheduled to be held at Philadelphia, June 16-19, 1945. The Executive Council voted in favor of holding a meeting of the Board of Regents of the College and the time and place of the meeting will be announced at a later date.

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*Philippine Islands*

The members of the American College of Chest Physicians hail the liberation of the Philippine Islands. The Governor of the College for the Philippine Islands is Dr. Miguel Canizares, F.C.C.P., Quezon Institute, Manila. The last communication received from Dr. Canizares was dated October 8, 1941. It is hoped that mail service with the Islands will be resumed at an early date. The other members of the College in the Philippine Islands are: Drs. Fidel Nepomuceno, F.C.C.P., Quezon Institute, Caloocan; Angel B. Trinidad, F.C.C.P., Manila; Jose P. Tirona, F.C.C.P., Pasay; Severo Siasoco, F.C.C.P., San Juan del Monte; and Manuel Quisumbing, F.C.C.P., San Pablo. Dr. Quisumbing was mayor of the city of San Pablo at the time of the invasion. The members of the American College of Chest Physicians throughout the world are looking forward to hearing from the Fellows of the College in the Philippine Islands.

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*College Vice-President Continues in Service*

Major General Shelley U. Marietta, F.C.C.P., who recently reached the statutory retiring age, will be retained by the Army as commanding general of Walter Reed General Hospital, Washington, D. C. When General Marietta was assigned to Walter Reed Hospital in 1939 there were available only 1,200 beds; now there are 3,502. His insistence on the latest modern equipment has made Walter Reed probably the best equipped hospital in the United States, if not in the world. General Marietta graduated from the University of Illinois College of Medicine, Chicago, in 1909. He received a reserve appointment in the Army in 1910, and two years later he was commissioned in the Regular Army and graduated from the Army Medical School, Washington, D. C.—J.A.M.A.

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Major Gerald A. Beatty, M.C., F.C.C.P., who has been on active duty overseas for more than two years, participated in the invasion of southern France last August. He has seen service in the Middle East, North Africa, Italy, and when last reported, he was with the 7th Army near the German border, below Saarbrücken. Major Beatty writes that he has seen a number of chest injuries which were taken care of in his field hospital.

## COLLEGE CHAPTER NEWS

*New York State Chapter Meeting*

The annual mid-winter scientific session of the New York State Chapter of the College was held at the Biltmore Hotel, New York City, February 2, 1945. The morning session was devoted to a symposium on the diagnosis and treatment of suppurative diseases of the chest by Dr. Adrian A. Ehler, Albany, New York. His paper was discussed by Dr. Ethan Flagg Butler, Elmira, New York, and Dr. Chevalier L. Jackson, F.C.C.P., Philadelphia, Pa.

At the luncheon meeting, Major General S. U. Marietta, F.C.C.P., Commanding General, Walter Reed Hospital, Washington, D. C., and Second Vice-President of the American College of Chest Physicians, presented a colored motion picture on the treatment of military personnel. A number of College members from the other American Republics attended the luncheon and they were introduced by Dr. Chevalier L. Jackson, Chairman, Council on Pan-American Affairs of the College.

In the afternoon session a paper was presented on routine hospital admissions by Dr. George M. Scatchard, Buffalo, N. Y. The paper was discussed by Dr. Donald McKay, F.C.C.P., Buffalo, N. Y. This was followed by a chest x-ray conference which was presented as a new feature of the New York State Chapter program. The credit for the success of the chest x-ray conference goes to Dr. Henry K. Taylor, New York City, who was in charge of this session.

Following the scientific program a business meeting of the New York State Chapter was held. Dr. James H. Donnelly, F.C.C.P., Buffalo, New York, President of the chapter, presided. Many important resolutions affecting the local chapter were introduced and unanimously passed. A resolution was introduced by Dr. Milton Lloyd, F.C.C.P., New York City, with regard to the establishment of a specialty board for diseases of the chest. This resolution is of national interest and was discussed by Dr. Nelson W. Strohm, F.C.C.P., Buffalo, New York, Regent of the College for the district, and by Dr. Samuel Thompson, F.C.C.P., New York City, First Vice-President of the New York State Chapter. A copy of the resolution will be forwarded to the Board of Regents of the College for consideration.

In view of the cancellation of the New York State Medical Society Meeting, scheduled to be held at Buffalo, New York in May, it was voted that the present slate of chapter officials be retained in office until the next meeting of the New York State Chapter of the College.

Arthur Q. Penta, M.D., F.C.C.P.  
Secretary.

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*Pacific Northwest States Chapter*

The Pacific Northwest States Chapter of the American College of Chest Physicians was organized at a meeting held at the Benson Hotel, Portland, Oregon, January 21-22, 1945. After the business session the following program was presented:

*Sunday, January 21, Benson Hotel*

Scientific Session, Dr. Frederick Slyfield, F.C.C.P., Seattle, Washington, presiding.



"The Value of Contrast Cardiovascular Visualization in the Differentiation of Mediastinal Tumor and Aneurysm," Lt. Comdr. Israel Steinberg, M.C., U.S.N.R., F.C.C.P., U. S. Naval Hospital, Seattle, Washington.

"Bronchoscopic Diagnosis in Bronchopulmonary Disease," Dr. William S. Conklin, F.C.C.P., Medical Director, University State Tuberculosis Hospital, Portland, Oregon.

"Mass X-Ray Program in Washington," Dr. Cedric Northrop, Tuberculosis Control Officer, Washington State Board of Health, Seattle, Washington.

Presentation and Discussion of X-Ray Films by Members of Society and Guests.

Dinner, Benson Hotel.

*Monday, January 22, University State Tuberculosis Hospital, Portland, Oregon*

"Presentation of Cases," Dr. Ralph C. Matson, F.C.C.P., Chief Surgeon, Dr. William S. Conklin, F.C.C.P., Medical Director, and Staff of University State Tuberculosis Hospital.

"Indication for Surgical Procedures in Pulmonary Tuberculosis," Dr. Ralph C. Matson, F.C.C.P., Chief Surgeon, University State Tuberculosis Hospital.

Discussion:

Lt. Comdr. J. P. Keogh, M.C., U.S.N.R., U. S. Naval Hospital, Seattle, Washington.

Luncheon

Surgical and Medical Clinics, University State Tuberculosis Hospital, Portland, Oregon.

Officers elected for the Pacific Northwest States Chapter (No. 24) of the College:

President: Dr. James M. Odell, F.C.C.P., The Dalles, Oregon.

Vice-President: Dr. John E. Nelson, F.C.C.P., Seattle, Washington.

Secretary-Treasurer: Dr. William S. Conklin, F.C.C.P., Portland, Oregon.

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### Wisconsin Chapter

The Executive Board of the Wisconsin Chapter of the American College of Chest Physicians held a meeting on November 19, 1944 at Wauwatosa, Wisconsin, for the purpose of organizing committees and arranging the activities of the chapter for the coming year. The following members were present at this meeting:

Alfred Busse, M.D., F.C.C.P., Jefferson, President.

Leon H. Hirsh, M.D., West Allis, Secretary-Treasurer.

Andrew L. Banyai, M.D., F.C.C.P., Wauwatosa, Regent.

Carl O. Schaefer, M.D., F.C.C.P., Racine, Governor.

The following committee appointments were made:

#### *Program Committee*

Andrew L. Banyai, M.D., F.C.C.P., Wauwatosa, *Chairman*.

Alexander Adamski, M.D., Racine.

Ethan Pfefferkorn, M.D., F.C.C.P., Oshkosh.

#### *General Arrangements Committee*

Carl O. Schaefer, M.D., F.C.C.P., Racine, *Chairman*.

Alfred Busse, M.D., F.C.C.P., Jefferson.

Earl Carpenter, M.D., F.C.C.P., Superior.

Leonard Moody, M.D., F.C.C.P., Bayfield.

John K. Shumate, M.D., F.C.C.P., Madison.

Marres Wirig, M.D., F.C.C.P., Madison.



*Educational Committee*

Ethan Pfefferkorn, M.D., F.C.C.P., Oshkosh, *Chairman*.  
Herbert Christensen, M.D., F.C.C.P., Wausau.  
William Clark, M.D., Janesville.

*Publicity and Reception Committee*

Bert Jones, M.D., F.C.C.P., Wood, *Chairman*.  
Leon Hirsh, M.D., West Allis.  
Marres Wirig, M.D., F.C.C.P., Madison.  
John P. Fetherston, M.D., Wilwaukee.

*Membership Committee*

John K. Shumate, M.D., F.C.C.P., Madison, *Chairman*.  
William Ford, M.D., Milwaukee.  
Stanley Szymanski, M.D., Wood.

*Scientific Arrangements Committee*

George Jurgens, M.D., F.C.C.P., Milwaukee, *Chairman*.  
Herbert Christensen, M.D., F.C.C.P., Wausau.  
Stanley Szymanski, M.D., Wood.

*X-Ray Conference Committee*

\*Hugh Ringo, M.D., F.C.C.P., Milwaukee, *Chairman*.  
Henry Anderson, M.D., Stevens Point.  
Esther Goldberger, M.D., Wauwatoša.  
Leonard W. Moody, M.D., F.C.C.P., Bayfield.

*Nominating Committee*

Carl O. Schaefer, M.D., F.C.C.P., Racine, *Chairman*.  
Andrew L. Banyai, M.D., F.C.C.P., Wauwatosa.  
Alfred A. Busse, M.D., F.C.C.P., Jefferson.

\*Deceased.

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*Texas Chapter*

Dr. Samuel E. Thompson, F.C.C.P., Kerrville, Texas, President of the Texas Chapter of the College, announces the following committee appointments:

*Membership Committee*

Alvis E. Greer, M.D., F.C.C.P., Houston, *Chairman*.  
McIver Furman, M.D., Corpus Christi.  
Michael A. Cunningham, M.D., F.C.C.P., Beaumont.  
Robert J. Hanks, M.D., F.C.C.P., Waco.  
David McCullough, M.D., F.C.C.P., Kerrville.

*Nominating Committee*

Charles M. Hendricks, M.D., F.C.C.P., El Paso, *Chairman*.  
Howard Smith, M.D., F.C.C.P., Austin.  
Jessie B. White, M.D., F.C.C.P., Amarillo.

*Program Committee*

Charles J. Koerth, M.D., F.C.C.P., Kerrville, *Chairman*.  
Joseph B. McKnight, M.D., F.C.C.P., Sanatorium.  
Elliott Mendenhall, M.D., F.C.C.P., Dallas.

*Public Relations Committee*

Orville E. Egbert, M.D., F.C.C.P., El Paso, *Chairman*.  
Robert E. Parrish, M.D., San Antonio.  
Victor E. Schulze, M.D., San Angelo.

*Educational Committee*

Alvis E. Greer, M.D., F.C.C.P., Houston, *Chairman*.  
George McReynolds Jr., M.D., Galveston.  
Elliott Mendenhall, M.D., F.C.C.P., Dallas.

## COLLEGE NEWS NOTES

Dr. William J. Bryan, F.C.C.P., Rockford, Illinois, presented a paper on "Pulmonary Tuberculosis," before a meeting of the Will-Grundy County Medical Society, on November 3, 1944, held at the Louis Joliet Hotel, Joliet, Illinois.

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Dr. J. V. Pace, F.C.C.P., Superintendent of Silvercrest Hospital, New Albany, Indiana, and Governor of the College for the state of Indiana, has been elected Vice-President of the Floyd County Medical Society. Dr. Phillip Cohn, Chief of Staff of Silvercrest Hospital and Associate Fellow of the College, has been elected Secretary-Treasurer of the Floyd County Medical Society.

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The Logan County Medical Society held a meeting on December 20, 1944, at the Aracoma Hotel, Logan, West Virginia, and the society went on record as unanimously endorsing Dr. G. E. Gwinn, F.C.C.P., for appointment as superintendent of Pinecrest Sanitarium, Beckley, to succeed Dr. E. H. Hedrick who was elected member of Congress from the sixth congressional district at the general election in November.

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Dr. F. C. Beelman, F.C.C.P., secretary of the Kansas State Board of Health, spoke at a meeting of the Central Kansas Medical Society held at Russell in December. Dr. Beelman's topic was "Relationship Between the Public Health Department and Kansas Physicians."

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At a meeting of the Dutchess County Medical Society held September 20, 1944 at the Wassaic State School, Wassaic, New York, Dr. George G. Ornstein, F.C.C.P., director of medicine at Seaview Hospital, Staten Island, N. Y., addressed the scientific session. Dr. Ornstein's talk was on "Recent Advances in the Diagnosis and Treatment of Chest Diseases."

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Lt Col. Philip T. Knies, F.C.C.P., Columbus, Ohio, has been made director of the Quarantine Branch, a newly established office, of the Epidemiology Division of the Preventive Medicine Service. The office will have responsibility for all quarantine measures by the Army and will maintain close cooperation with all other government agencies having duties associated with quarantine, by means of the Intra-departmental Quarantine Commission.

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Dr. W. B. Yegge, F.C.C.P., Denver, Colorado, was nominated as Trustee, for a three-year term, at the annual meeting of the Colorado State Medical Society held in Denver, September, 1944.

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Dr. Thomas N. Hunnicutt, Jr., Newport News, Virginia, has been elected President of the Warwick County Medical Society.

Captain Clifton Felts, formerly of Seminole, Oklahoma, recently received a citation for "heroic and meritorious duty beyond the ordinary in action" while serving as battalion surgeon in an infantry division in Italy. Captain Felts graduated from the University of Illinois College of Medicine, Chicago, in 1932 and entered the service June 20, 1942. Captain Felts was admitted to Associate Membership in the College on August 8, 1943.

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Guest speaker at a meeting of the Mahaska County Medical Society, held in Oskaloosa, Iowa, December 6, 1944, was Dr. William M. Spear, Superintendent of the State Sanatorium at Oakdale. Dr. Spear spoke on "Advancement in Diagnosis and Therapy of Pulmonary Tuberculosis."

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A paper by Dr. S. A. Slater, F.C.C.P., Superintendent and Medical Director, Southwestern Minnesota Sanatorium, Worthington, Minnesota, entitled "Practical Points in the Diagnosis of Pulmonary Tuberculosis," read before the meeting of the North Midwest States Chapter of the American College of Chest Physicians, Rochester, Minnesota, April 15, 1944, was published in the October, 1944 issue of "Minnesota Medicine."

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The National Jewish Hospital, in cooperation with the Denver County Medical Society and the University of Colorado School of Medicine presented a series of lectures and clinical conferences on November 6 and 7, 1944. Dr. Edgar Mayer, F.C.C.P., New York City, member of the Council on Pan-American Affairs of the American College of Chest Physicians, lectured on "Light and X-Ray Therapy of Tuberculosis" and "Diagnosis of Pulmonary Emphysema" at the conference.

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Dr. Seymour M. Farber, F.C.C.P., San Francisco, Secretary-Treasurer of the California Chapter of the American College of Chest Physicians, has been invited to speak before the Fresno County Medical Society on April 3, and the Tulare County Medical Society on April 4. Dr. Farber's topic will be "Diagnostic Problems in Chest Disease."

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Dr. Leo Eloesser, F.C.C.P., San Francisco, California, Vice-Chairman of the Council on Pan-American Affairs, presented a paper on "Surgery of the Chest" before the Wartime Graduate Medical Meeting held at the U. S. Naval Hospital, San Diego, California, on November 30, 1944.

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At the 57th annual meeting of the Southern Surgical Association held at Hot Springs, Virginia, December 5-7, 1944, Lt. Col. Brian B. Blades, F.C.C.P., presented a paper on "Penicillin as an Adjunct to the Surgical Treatment of Acute and Chronic Empyemas." Dr. William F. Rienhoff, Jr., Baltimore, Maryland, also appeared on the program. The Southern Surgical Association is under the presidency of Dr. Alton Ochsner, F.C.C.P., New Orleans, Louisiana.

## Soviet Academy of Medical Sciences

On December 20, 1944, the Academy of Medical Sciences of the U.S.S.R. was formally organized in Moscow under the People's Commissariats of Health. The Academy will consist of three departments. The largest department, that of clinical medicine, will be headed by the well-known neuro-surgeon Academician N. N. Burdenko; the department of hygiene, microbiology and epidemiology will be under the direction of Professor N. A. Semashko; and the department of medico-biological sciences will be headed by Academician A. A. Bogomolets.

Among the many scientific research institutions existing in the U.S.S.R., the 25 most important and specialized ones, working in the above-mentioned basic branches, will for the time being, constitute the Academy. The Central Tuberculosis Institute will be represented in the Academy. Sixty of the outstanding representatives of medical sciences in the U.S.S.R. comprise the foundation of membership. In accordance with the Academy regulations, candidates for full membership and corresponding membership to the Academy will be nominated by medical research institutes, universities and scientific societies of the Soviet Union.

It is the purpose of the Academy of Medical Sciences to coordinate the work of all of the specialists in the Soviet Union and to establish a close contact with the representatives of medical sciences in other countries for the exchange of scientific achievements and other matters of mutual interest.

The following communication was received at the Executive Offices of the College from Professor V. Lebedenko, Medical Representative of the Soviet Union in the United States.

Washington, D. C.  
December 14, 1944

Mr. Murray Kornfeld, Executive Secretary  
American College of Chest Physicians  
500 North Dearborn Street, Chicago, Illinois  
Dear Mr. Kornfeld:

A cablegram just received from Moscow informs me that a new Soviet Academy—the Academy of Medical Sciences—will be opened there on December 20th.

A message of greeting from yourself on behalf of the American College of Chest Physicians would, I am certain, be warmly appreciated on this occasion. Such a cablegram may be addressed to Academician Burdenko or to Commissar Mitirev, either one in care of the Narkomsdrav, Moscow. It can be wired directly, or if you prefer, I shall be glad to forward it from this office upon receipt of the text.

Thanking you for your fraternal scientific interest, I am,

Sincerely yours,

(signed) Prof. V. Lebedenko  
Representative in the U. S. A.

December 15, 1944

Academician Burdenko  
c/o Narkomsdrav  
Moscow

The American College of Chest Physicians extends congratulations to the Academy of Medical Sciences of the U.S.S.R. We send our colleagues in the U.S.S.R. our best wishes for the success in this newest expression for the advancement of medical sciences. A cordial invitation is extended to the members of the Academy of Medical Sciences to meet with us in the United States of America as soon as conditions permit the holding of such a meeting. Salutations.

American College of Chest Physicians  
Chicago, Illinois, U.S.A.



## M. James Fine

1884-1944

Dr. M. James Fine of Newark, New Jersey, died as a result of an acute coronary attack on December 17, 1944. The attack occurred as he was returning from a trip to Philadelphia, and he died before help could be administered.

Dr. Fine was connected with many institutions in the State of New Jersey. He was Director of Tuberculosis of the City of Newark for a period of 28 years. During his connection with the Department of Health, he established many new clinics and many changes in the routine care of the treatment of tuberculosis. He established the first pneumothorax clinic in Newark in 1920.

He graduated from the University of Maryland in 1910. After serving for about a year on the Residence Staff of the Essex County Isolation Hospital in Belleville, New Jersey. Dr. Fine came to Newark in 1913 at which time he became connected with the Tuberculosis Division of the Newark Board of Health. He was Chief of the Tuberculosis Service of the Newark City Hospital and also Chief of Tuberculosis Clinics at the Newark Beth Israel Hospital. In 1926 he was appointed as Consulting Physician to the Tuberculosis Division of the New Jersey State Board of Health. He was an examining physician for the National Jewish Hospital in Denver, Colorado, and for the Deborah Tuberculosis Hospital in Browns Mills, New Jersey. In 1942 Dr. Fine was appointed to the Consulting Staff of the Essex Mountain Sanatorium in Verona, New Jersey.

Dr. Fine was a member of the Essex County Medical Society, the Medical Society of New Jersey, the American Medical Association and an executive member of the New Jersey Sanitary Association. He was a Fellow in the American College of Chest Physicians, and served on the Committee on State Laws for Tuberculosis of the College.

Dr. Fine leaves his wife, Mrs. Lillian G. Fine, and a daughter, Marcia Bell Fine. He was buried at the B'Nai Jesurun Cemetary, Elizabeth, New Jersey.

Marcus W. Newcomb, M.D., F.C.C.P.  
Governor for New Jersey.

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## BOOK REVIEWS

*Synopsis of Diseases of the Heart and Arteries.* By George R. Herrmann, M.S., M.D., Ph.D., F.A.C.P., Professor of Medicine, University of Texas, etc. Third Edition with 103 Text Illustrations and 4 color plates. 516 pp. \$5.00. The C. V. Mosby Co., St. Louis, 1944.

This book is a concise presentation of present knowledge of heart and artery diseases. It is organized in a logical and orderly manner, beginning with symptoms and diagnosis of heart disease, methods of patient study and examination, and continuing with a discussion of the different etiological types of heart disease and related clinical syndromes. Recent developments in Electrocardiography and Cardiology as related to Military Medicine are included in this edition. Controversial subjects are largely avoided and only well accepted concepts are expressed.

The author has stated that his purpose is to write a text and reference for students and general practitioners who do not have time to read

extended discussions of the various phases of Cardiology. Unquestionably, he has succeeded, and the book is to be highly recommended for this purpose. Even those who have spent considerable time in the study of cardiovascular diseases may read the book with profit.

Charles N. Holman, M.D.

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*Principles and Practices of Inhalational Therapy*, by Alvan L. Barach, M.D. Publisher: J. B. Lippincott Company, Philadelphia, Pa. Price, \$4.00.

This is a presentation of much importance to all those engaged and interested in a highly specialized field of therapeutics which, up until the present time has been somewhat neglected in book form. It is a far cry and a striking advance from the concepts of the ancients mentioned in the Berlin Papyrus until the present, which was that air was supposed to "travel by the arteries and on entering the nostrils was believed to penetrate to the heart and internal organs and to supply the whole blood abundantly."

As in the present, even then there was some confusion of ideas as exemplified by the idea that "there are four vessels for his two ears—the breath of life enters by his right ear and the breath of death by his left ear."

These misconcepts concerning oxygen, carbon dioxide, etc., and their utilization by the body have carried on right up until the present as a heritage bequeathed to us as a legacy—right down to our own grandmothers with their croup kettle, and to the lonely Indian on his reservation, inhaling steam from hot stones for typhoid fever.

Readers will find in the various chapters contained in the book, many of the results of modern researches in "Inhalational Therapy" correlated with their pathologic physiology and clinical application. Some of the chapters are brief owing to the difficulty in covering such a wide field, but this is compensated for by extensive bibliographic references. While some of the conclusions are based on too few cases, such as the statement that "five out of seven cases of advanced bilateral pulmonary tuberculosis achieved a state of complete arrest or clearing of active tuberculosis," the author, himself, forestalls a certain amount of criticism by stating elsewhere that "controlled investigation is unquestionably necessary to confirm many of the tentative conclusions advanced."

An adequate summarization of this book is somewhat difficult as there is so much informative material in every chapter touching upon so many phases of "Inhalational Therapy."

Other than the text covering "Inhalational Therapy," the central idea of the book seems to be the effort to correlate symptoms with the pathological processes, which is the ideal objective to be attained in all teaching of pathology. Under various headings covering many diseases an effort is made to explain symptoms through altered mechanisms as a result of the pathology. In noting the manner in which this is done in this book, many pathologists who conduct the popular weekly "pathological conferences" would be aided in their explanations of the "why" and "how" of various symptoms.

A great many of the most important points are brought to light in the discussion of pathologic physiology, particularly in the chapters devoted to Pneumonia, Congestive Heart Failure, Coronary Thrombosis and Coronary Sclerosis, Bronchial Asthma, Pulmonary Emphysema, Acute Alt-

tude Sickness, Acute Anoxia, and Shock, after which discussion there is extensive discussion in inhalational therapy in each of these various processes.

The comments in the chapter "Some Considerations Concerning Research in Respiratory Function and Inhalational Therapy," are particularly pertinent.

The basis for their comment on pathologic physiology and the rationale for treatment is well substantiated by an enormous amount of experimental research. Carbon dioxide and oxygen in particular are very vital and necessary substances for bodily needs in the presence of pathologic processes and altered physiology, and the importance of the manner in which the substances are administered to the body can not be overestimated.

To anyone interested in any phase of the material presented in the various chapters, the book will be an important reference work. Careful application of the many details in therapy will do much to alter the casual order given in many hospitals to "put him in the Tent" or "take him out."

Marr Bisailon, M.D.

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*The Practice of Medicine*, by Jonathan C. Meakins, M.D., LL.D. C. V. Mosby Company, St. Louis, 1944. 4th Edition.

This is the fourth edition in eight years of Dr. Meakins' popular one volume textbook of medicine. It exhibits a satisfactory blending of sound scientific detail filtered through the rich personal clinical experience of the author, and has been brought thoroughly up-to-date. As in the previous editions, the sections on Metabolism, the Ductless Glands, the Nervous System, and the Urinary System, are written by able Canadian colleagues of the author. The critical reviewer may wonder why a textbook datelined 1944 devotes almost half a page to the use of quinine salts in the treatment of lobar pneumonia and only a few lines to the sulfonamides, (with emphasis on sulfapyridine!), though reference is made to a general discussion of the sulfa drugs in another portion of the book. Many certainly will differ with the recommendation of artificial pneumothorax as a specific for the chest pain of pneumonia, a point which is emphasized by a large x-ray print of a collapsed pneumonic lung. The book is profusely illustrated with well chosen charts, photographs and a large number of color prints. Though some of the latter are excellent, many of the reproductions are not up to the standards of modern-day color lithography. The novel "Introduction to the Practice of Medicine" at the beginning of the book is a delight to read. It sets the pattern for the refreshing flavor of the volume which is free of the heavy somnolent hand of many text-books. The author and his publisher are to be congratulated on bringing fourth such a welcome book in war-time.

—Morton J. Goodman, M.D.

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#### *Hospital Renamed for Dr. Dunham*

On February 6, 1945, the Board of Trustees of the Hamilton County Tuberculosis Hospital changed the name of the hospital to the Dunham Hospital in honor of the many professional accomplishments of the late Dr. H. Kennon Dunham, Cincinnati, Ohio.